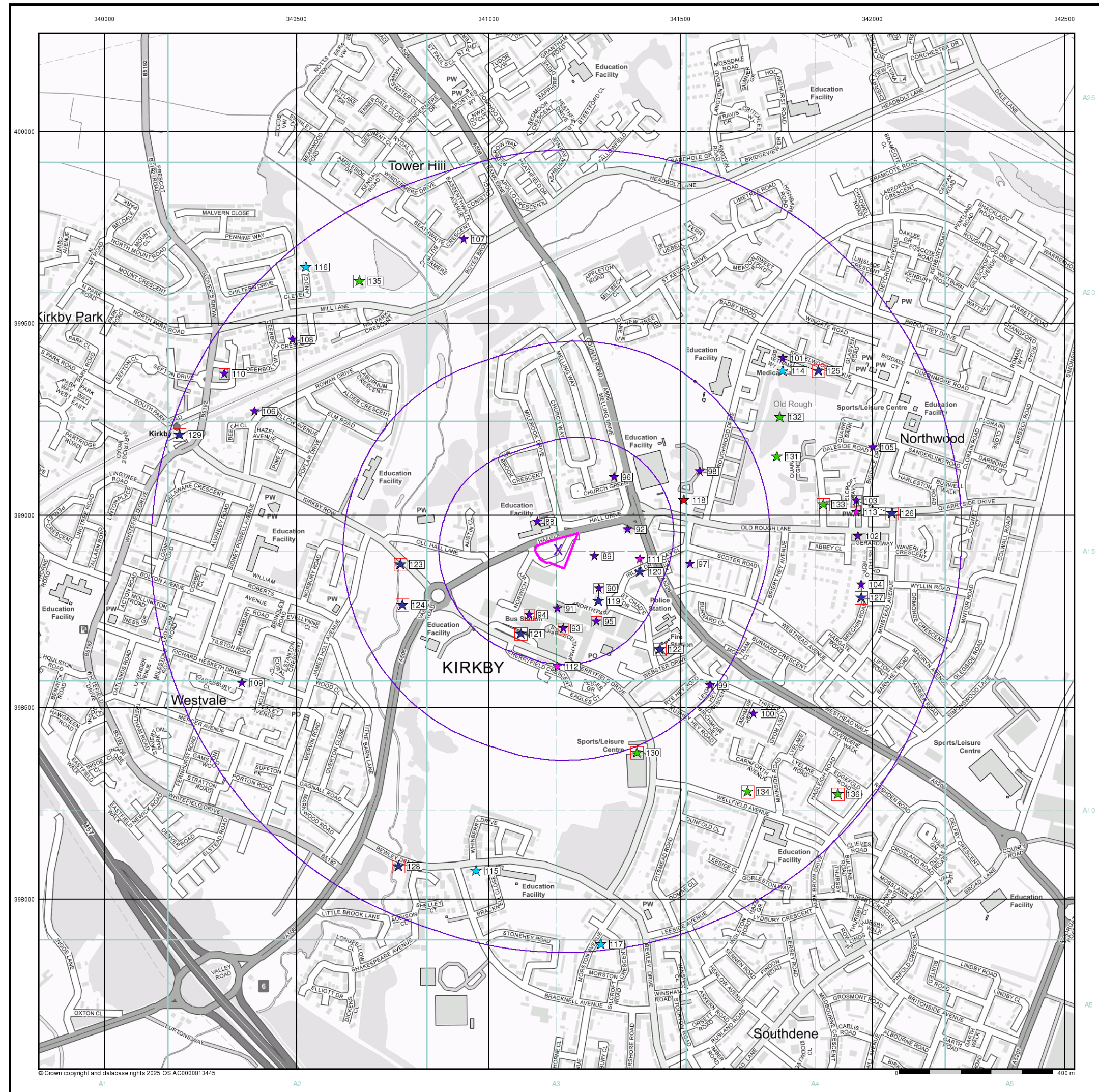




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Industrial Land Use Map

General

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

Industrial Land Use

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

Industrial Land Use Map - Slice A

Order Details

Order Number:	369327796_1_1
Customer Ref:	1373.01
National Grid Reference:	341180, 398910
Slice:	A
Site Area (Ha):	0.56
Search Buffer (m):	1000

Site Details

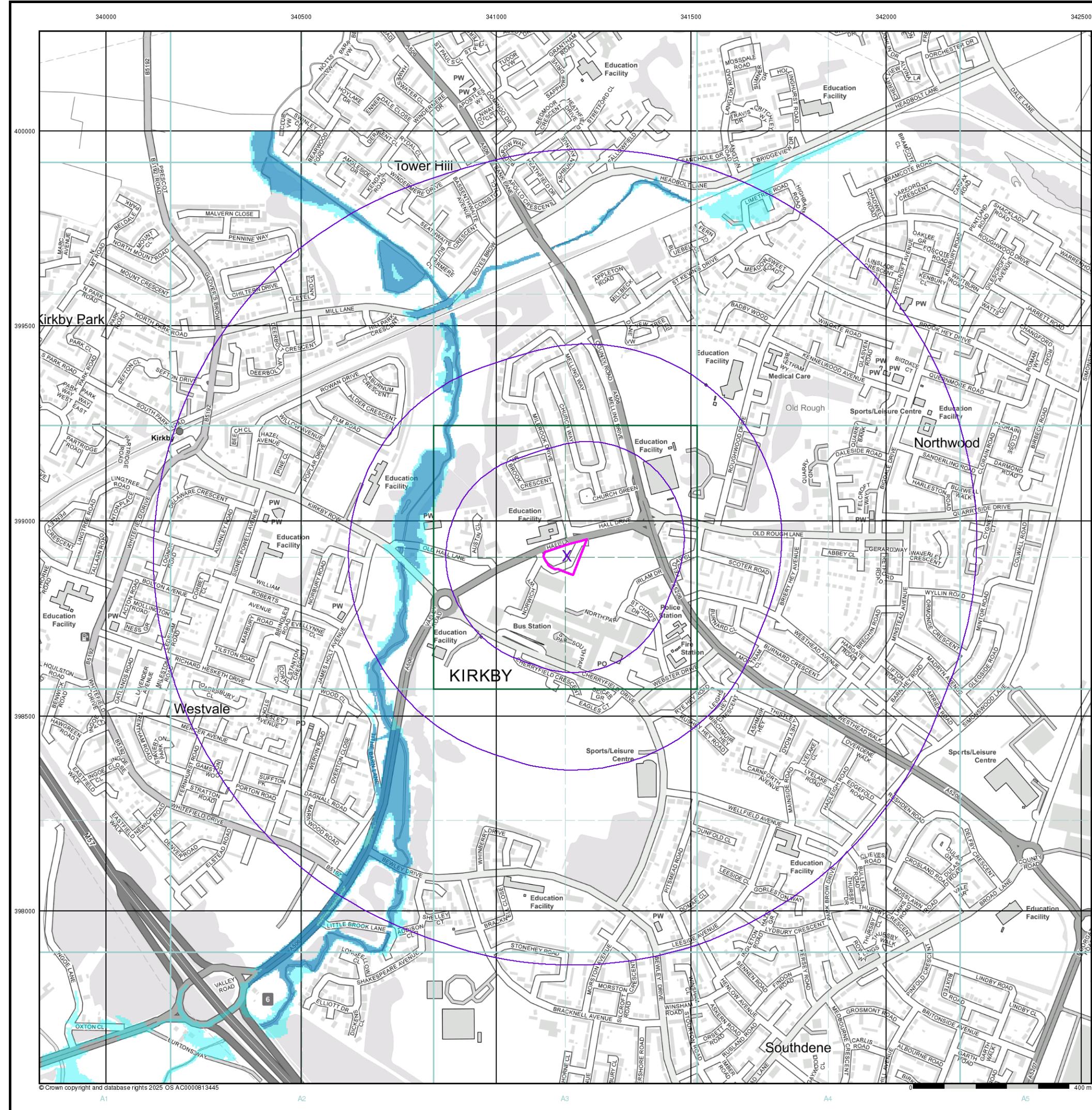
Telegraph Way, KIRKBY TOWN CENTRE, L32 8US

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Tel: 0844 844 9952
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A Landmark Information Group Service v50.0 10-Feb-2025 Page 2 of 7



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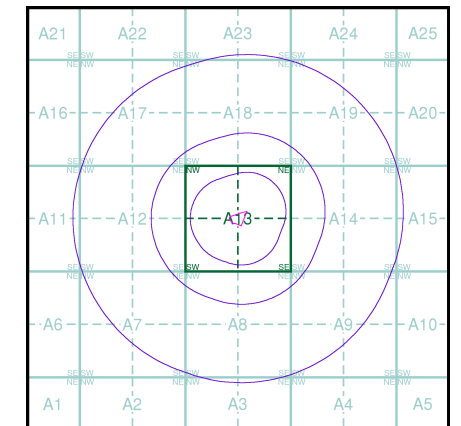
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



Order Details

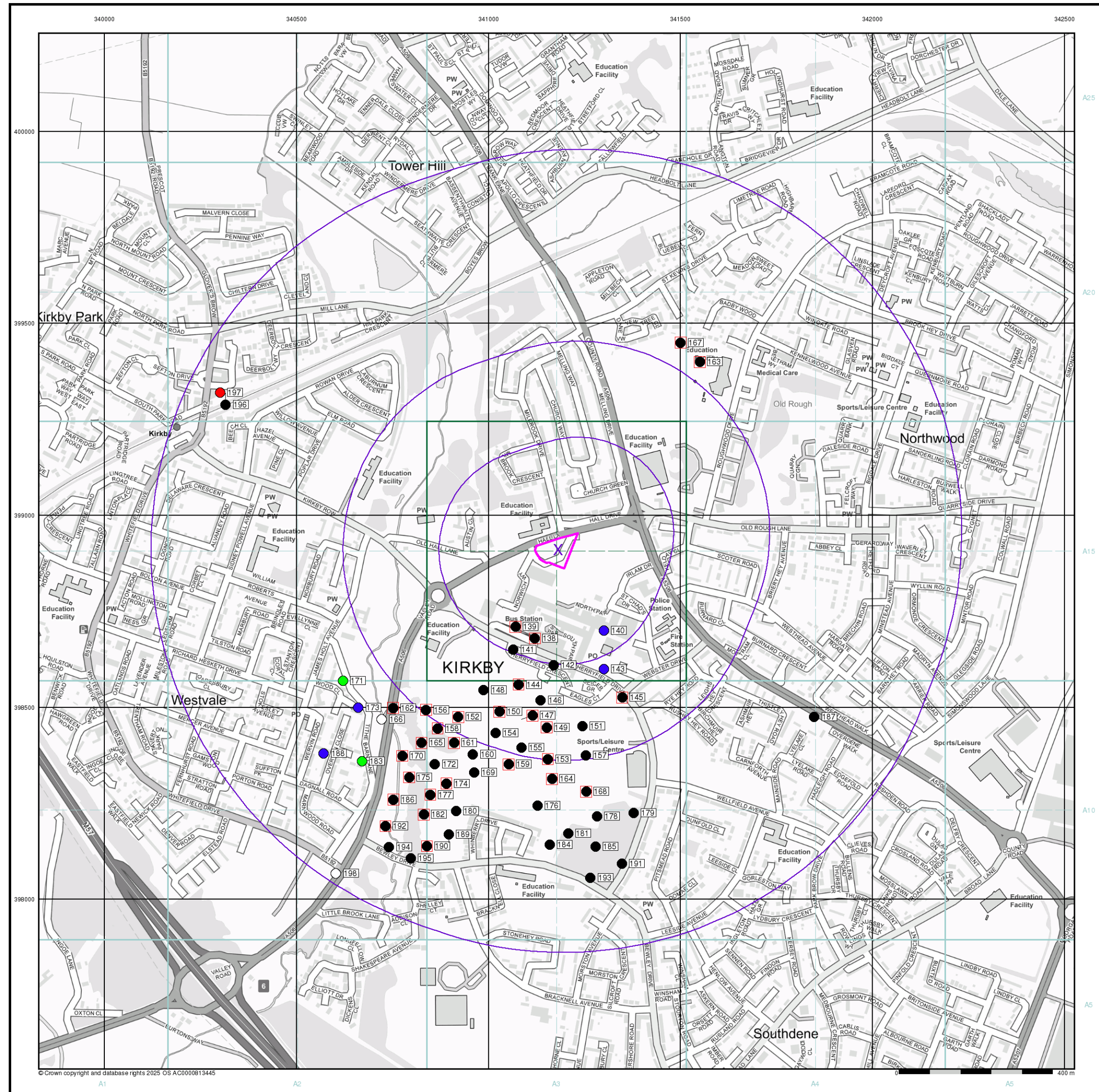
Order Number: 369327796_1_1
Customer Ref: 1373.01
National Grid Reference: 341180, 398910
Slice: A
Site Area (Ha): 0.56
Search Buffer (m): 1000

Site Details

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General

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

Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A

Order Details

Order Number:	369327796_1_1
Customer Ref:	1373.01
National Grid Reference:	341180, 398910
Slice:	A
Site Area (Ha):	0.56
Search Buffer (m):	1000

Site Details

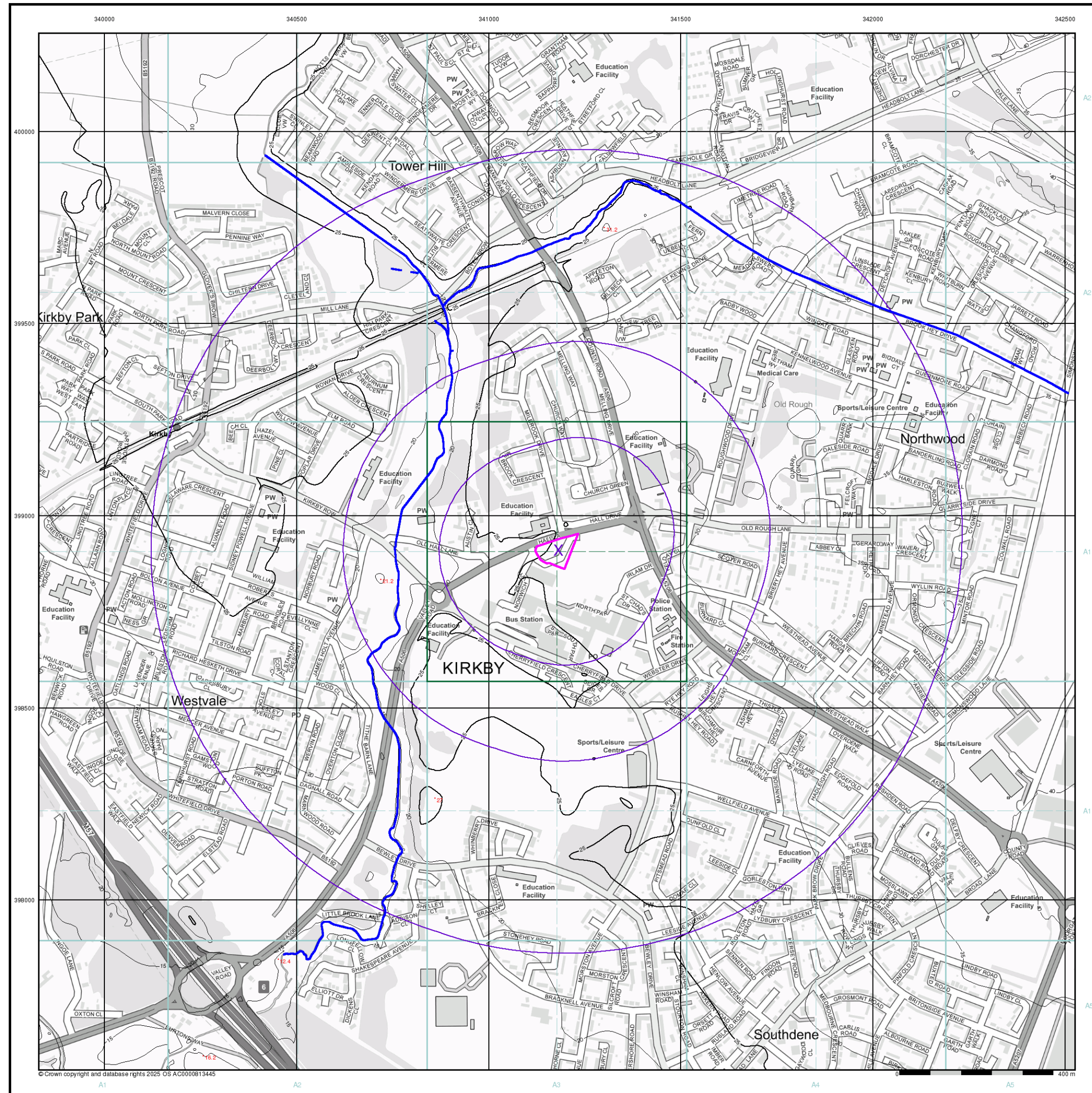
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General

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

OS Water Network Data

Canal	Drain
Reservoir	Other
Foreshore	Lake
Marsh	Transfer
Tidal River	Lock Or Flight Of Locks
Inland River	Sea

Contours (height in meters)

Standard Contour: 105, 100, 95

Master Contour: 105, 100, 95

Spot Height: 167.3

MLW: Mean Low Water

MHW: Mean High Water

OS Water Network Map - Slice A

Order Details

Order Number: 369327796_1_1

Customer Ref: 1373.01

National Grid Reference: 341180, 398910

Slice: A

Site Area (Ha): 0.56

Search Buffer (m): 1000

Site Details

Telegraph Way, KIRKBY TOWN CENTRE, L32 8US

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Envirocheck®

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General

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

Risk of Flooding from Surface Water

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

Suitability

See the suitability map below

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

EANRW Suitability Map - Slice A

Order Details

Order Number:	369327796_1_1
Customer Ref:	1373.01
National Grid Reference:	341180, 398910
Slice:	A
Site Area (Ha):	0.56
Search Buffer (m):	1000

Site Details

Telegraph Way, KIRKBY TOWN CENTRE, L32 8US

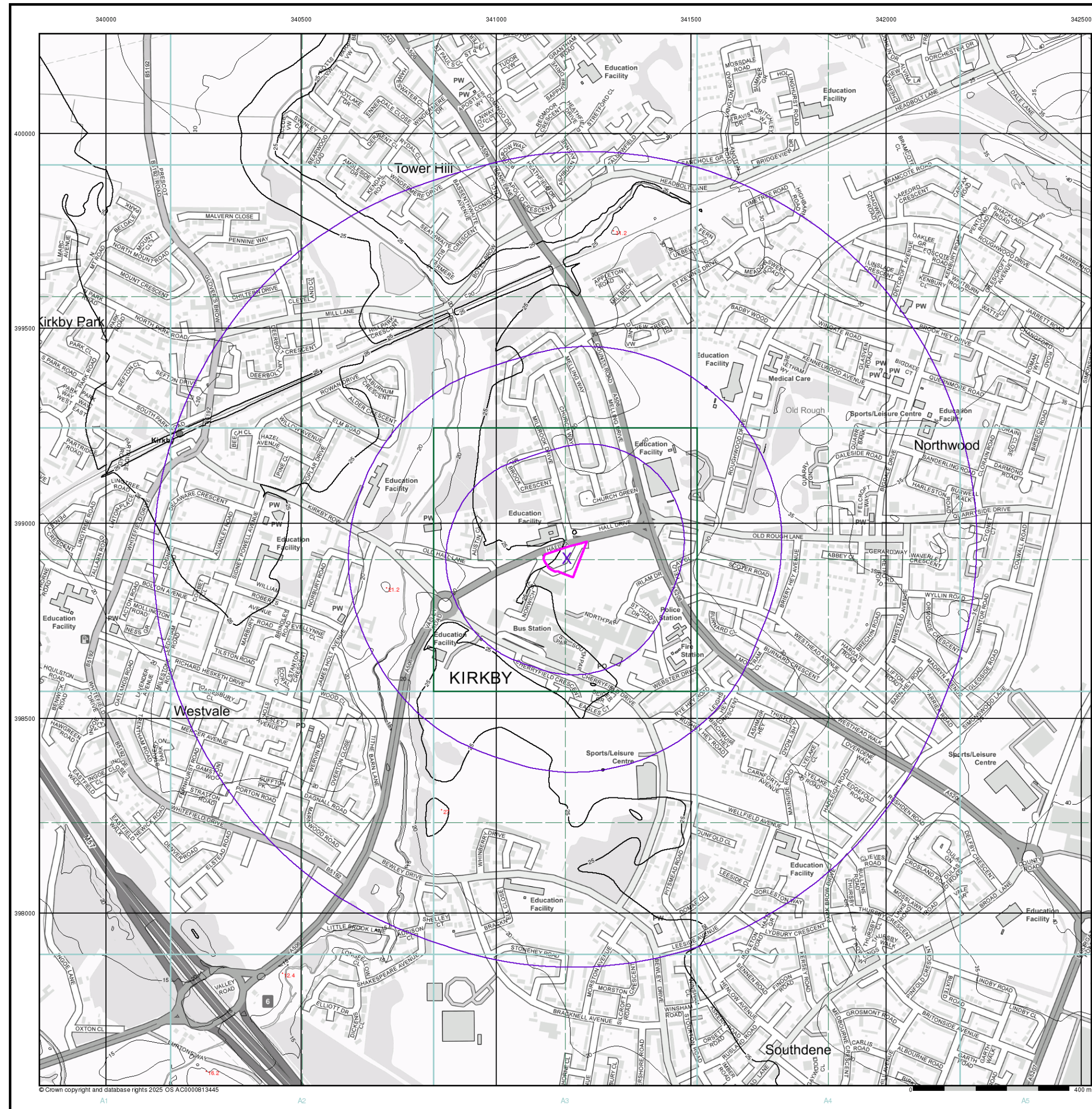
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WFD Surface Waters Map

General

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

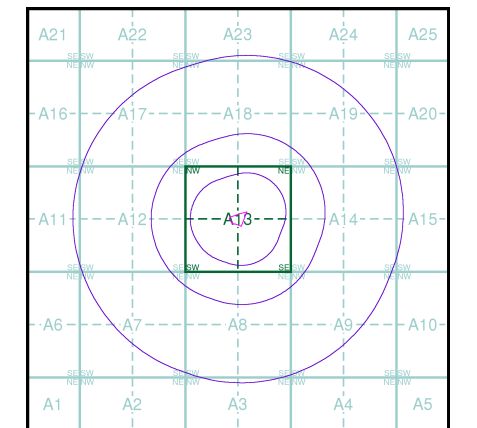
Water Framework Directive - Surface Water Quality

- High
- Good
- Moderate
- Poor
- Bad

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height
- MLW - Mean Low Water
- MHW - Mean High Water

WFD Surface Waters Map - Slice A



Order Details

- Order Number: 369327796_1_1
- Customer Ref: 1373.01
- National Grid Reference: 341180, 398910
- Slice: A
- Site Area (Ha): 0.56
- Search Buffer (m): 1000

Site Details

Telegraph Way, KIRKBY TOWN CENTRE, L32 8US



APPENDIX C

Envirocheck Report – Datasheet

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

369327796_1_1

Customer Reference:

1373.01

National Grid Reference:

341180, 398910

Slice:

A

Site Area (Ha):

0.56

Search Buffer (m):

1000

Site Details:

Telegraph Way
KIRKBY TOWN CENTRE
L32 8US

Client Details:

Mr Jones
Remada Ltd
Forward House
17 High Street
Henley In Arden
B95 5AA

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	14
Hazardous Substances	-
Geological	17
Industrial Land Use	22
Sensitive Land Use	30
Data Currency	31
Data Suppliers	37
Useful Contacts	38

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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Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England. The probability result is only valid for properties above ground. All basement and cellar areas are considered to be at additional risk from high radon levels. If an underground room such as a cellar or basement makes up part of the living or working accommodation, the property should be tested regardless of Radon Affected Area status.

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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 1				2
Prosecutions					
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 1		2		
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2			Yes	
Pollution Incidents to Controlled Waters	pg 2			5	16
Historical Prosecutions					
Registered Radioactive Substances					
Substantiated Pollution Incident Register	pg 5				2
Water Abstractions	pg 6				2 (*14)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 10	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 10	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 10	Yes	n/a	n/a	n/a
Source Protection Zones	pg 10	1			
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 10			1	22
Water Framework Directive - Catchment	pg 13	Yes			Yes
Water Framework Directive - Groundwater	pg 13	Yes			
Water Framework Directive - Surface Waters					

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	pg 14			1	
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 14	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 14			1	1
Potentially Infilled Land (Non-Water)	pg 14			3	2
Potentially Infilled Land (Water)	pg 14		2	7	18
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 17	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 17	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 19			1	3
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 20	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 20	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 20	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 20	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 21		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 22		20	3	15
Fuel Station Entries	pg 25		1	1	1
Points of Interest - Commercial Services	pg 25				4
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 26			1	
Points of Interest - Public Infrastructure	pg 26		4	13	12
Points of Interest - Recreational and Environmental	pg 28				12
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
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 30	1			
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	A13NE (N)	0	1	341182 398912
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	222	1	340900 398900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	322	1	340800 398912
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	372	1	340750 398912
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (SW)	382	1	340800 398700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	426	1	340750 398700
1	Discharge Consents Operator: Liverpool Corporation Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Kirkby Trading Estate Stp, Kirkby, Merseyside Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01m/544 Permit Version: 1 Effective Date: 26th March 1993 Issued Date: Not Supplied Revocation Date: 26th March 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Mersey Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	881	2	342000 398500
2	Discharge Consents Operator: Suez Recycling & Recovery Uk Limited Property Type: GROUNDWATER REMEDIATION SITES/CIVIL ENGINEERING Location: Knowsley Rail Transfer Loading Stn Woodward Road, Knowsley Industrial Park, Liverpool, Merseyside, L33 7uz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Eprcb3995vz Permit Version: 1 Effective Date: 14th September 2015 Issued Date: 14th September 2015 Revocation Date: 13th June 2016 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: 2 Outlets 2 Watercourses Status: Revoked under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A19NW (N)	897	2	341523 399802
3	Local Authority Pollution Prevention and Controls Name: Johnsons Dry Cleaners Location: 11 St Chads Parade, Kirkby, L32 8rd Authority: Knowsley Metropolitan Borough Council, Environmental Health and Consumer Protection Division Permit Reference: B/0806/7/3 Dated: 8th October 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Manually positioned to the address or location	A13SE (S)	157	3	341194 398705
4	Local Authority Pollution Prevention and Controls Name: Total Fina ElfCherryfield Drive Service Station Location: Cherryfield Drive, LIVERPOOL, Merseyside, L32 8SE Authority: Knowsley Metropolitan Borough Council, Environmental Health and Consumer Protection Division Permit Reference: Pet/1298/1.4/02 Dated: 29th January 1999 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Manually positioned to the address or location	A13SW (S)	243	3	341095 398641

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nearest Surface Water Feature	A12NE (NW)	329	-	340830 399064
5	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Merseyside Authority: Environment Agency, North West Region Pollutant: Not Given Note: Kirkby Brook; None Pollution Found Incident Date: 17th August 1993 Incident Reference: 93450105 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	334	2	340800 399000
6	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Rubble/Litter Or Solids Note: Boots Catalogues Incident Date: 31st December 1992 Incident Reference: 92450036 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	372	2	341600 398900
7	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Merseyside Authority: Environment Agency, North West Region Pollutant: Not Given Note: Not Supplied Incident Date: 9th April 1992 Incident Reference: 92440043 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	430	2	340800 399200
8	Pollution Incidents to Controlled Waters Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Merseyside Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: Kirkby Brook; Crude Sewage Incident Date: 24th June 1996 Incident Reference: 96440090 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	436	2	340700 398800
8	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Merseyside Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 18th January 1996 Incident Reference: 96440007 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	437	2	340700 398795

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Heating Oil Note: Not Supplied Incident Date: 17th September 1991 Incident Reference: 91440080 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	562	2	341200 398300
10	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Other Note: Kirkby Brook; Mains Water Incident Date: 4th November 1994 Incident Reference: 94440147 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Leaking Underground Pipe Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	748	2	341200 399700
11	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Merseyside Authority: Environment Agency, North West Region Pollutant: Not Given Note: Not Supplied Incident Date: 9th October 1992 Incident Reference: 92450018 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	754	2	340800 399600
12	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Merseyside Authority: Environment Agency, North West Region Pollutant: Not Given Note: Simsonwood Brook; None Pollution Found Incident Date: 31st March 1993 Incident Reference: 93450038 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	795	2	340705 399595
12	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Unknown Note: Mill Dam Pond Incident Date: 29th June 1994 Incident Reference: 94440078 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	798	2	340700 399595
12	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Rubble/Litter Or Solids Note: Simonswood Brook; Burnt Out Cars Incident Date: 19th October 1993 Incident Reference: 93440130 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	802	2	340700 399600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewage Treatment Works Location: Near Bewley RoadOff , Valley Road Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: Kirkby Brook; Crude Sewage Incident Date: 10th January 1997 Incident Reference: 97440002 Catchment Area: Alt Receiving Water: Freshwater Stream/River Cause of Incident: Blocked Sewer Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	811	2	340700 398200
14	Pollution Incidents to Controlled Waters Property Type: Connection To Surface Drains Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Other Note: Simonswood Brook; Poss X Connections Incident Date: 7th July 1992 Incident Reference: 92440093 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	841	2	340800 399695
14	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: Kirkby Mill Dam Pond Incident Date: 8th April 1992 Incident Reference: 92440042 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	845	2	340800 399700
15	Pollution Incidents to Controlled Waters Property Type: Schools/Universities Location: Kirby Brook Authority: Environment Agency, North West Region Pollutant: Chemicals - Paints / Dyes Note: White Liq Flowing To Kirby Brook Incident Date: 27th January 1998 Incident Reference: CE980091 Catchment Area: Alt Receiving Water: Freshwater Stream/River Cause of Incident: Wrong Connection Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	853	2	340800 398100
16	Pollution Incidents to Controlled Waters Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Unknown Sewage Note: Simonswood Brook Incident Date: 25th July 1992 Incident Reference: 92440099 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	860	2	340600 399600
17	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Merseyside Authority: Environment Agency, North West Region Pollutant: Unknown Note: Mill Dam Pond Incident Date: 12th May 1995 Incident Reference: 95440079 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	882	2	340705 399695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	Pollution Incidents to Controlled Waters Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 23rd September 1994 Incident Reference: 94440136 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Leaking Underground Pipe Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	884	2	340700 399695
18	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Unknown Note: Simonswood Brook Incident Date: 30th May 1991 Incident Reference: 91440034 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	929	2	340400 399500
19	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Kmec Cleaning, Gullies In Kirby Bk Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Other Note: Kirkby Bk; Gully Washing Incident Date: 16th July 1997 Incident Reference: 97440090 Catchment Area: Alt Receiving Water: Freshwater Stream/River Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	962	2	341400 399900
20	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Rubble/Litter Or Solids Note: Kirkby Brook Incident Date: 18th April 1995 Incident Reference: 95440060 Catchment Area: Alt Receiving Water: Not Given Cause of Incident: Deliberate Disposal To Drain Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	978	2	340700 399800
21	Substantiated Pollution Incident Register Authority: Environment Agency - North West Region, South Area Incident Date: 17th April 2009 Incident Reference: 671238 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural)	A17NE (NW)	754	2	340837 399616
22	Substantiated Pollution Incident Register Authority: Environment Agency - North West Region, South Area Incident Date: 22nd April 2009 Incident Reference: 672939 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural)	A17NE (NW)	854	2	340764 399694

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	Water Abstractions Operator: United Utilities Water Ltd Licence Number: 2569031018 Permit Version: 100 Location: Well, Borehole And Well With Boreholeat Kirkby Pumping Statio Authority: Environment Agency, North West Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 7001 Yearly Rate (m3): 1659290 Details: Well Borehole And Well With Borehole Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th January 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NE (N)	766	2	341400 399700
24	Water Abstractions Operator: Metropolitan Borough Of Knowsley Licence Number: 2569031026 Permit Version: 100 Location: Bank Brk At Premises, Mill Dam, Milllane, Kirkby, Merseyside Authority: Environment Agency, North West Region Abstraction: General Agriculture: Transfer Between Sources Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 2409 Yearly Rate (m3): 454600 Details: Premises, Mill Dam, Mill Lane, Kirkby Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 26th November 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	889	2	340700 399700
	Water Abstractions Operator: Liverpool Football Club & Athletic Grounds Limited Licence Number: 2569031131 Permit Version: 3 Location: Borehole At Kirkby Authority: Environment Agency, North West Region Abstraction: Sports Grounds/Facilities: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Liverpool Way, Kirkby Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 19th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1261	2	342445 398610
	Water Abstractions Operator: Liverpool Football Club & Athletic Grounds Limited Licence Number: 2569031131 Permit Version: 3 Location: Borehole At Kirkby Authority: Environment Agency, North West Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Liverpool Way, Kirkby Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 19th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1261	2	342445 398610

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Liverpool Football Club & Athletic Grounds Limited Licence Number: 2569031131 Permit Version: 2 Location: Borehole At Kirkby Authority: Environment Agency, North West Region Abstraction: Sports Grounds/Facilities: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Liverpool Way, Kirkby Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 23rd October 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1261	2	342445 398610
	Water Abstractions Operator: Liverpool Football Club Soccer Academy Licence Number: 2569031131 Permit Version: 1 Location: Borehole A At Kirkby Authority: Environment Agency, North West Region Abstraction: General Agriculture; General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th September 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1274	2	342450 398580
	Water Abstractions Operator: Liverpool Football Club Soccer Academy Licence Number: 2569031131 Permit Version: 1 Location: Borehole A At Kirkby Authority: Environment Agency, North West Region Abstraction: Sports Grounds/Facilities: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th September 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1274	2	342450 398580
	Water Abstractions Operator: Liverpool Football Club Soccer Academy Licence Number: 2569031131 Permit Version: 1 Location: Borehole B At Kirkby Authority: Environment Agency, North West Region Abstraction: General Agriculture; General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th September 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1286	2	342460 398570

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Liverpool Football Club Soccer Academy Licence Number: 2569031131 Permit Version: 1 Location: Borehole B At Kirkby Authority: Environment Agency, North West Region Abstraction: Sports Grounds/Facilities: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th September 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	1286	2	342460 398570
	Water Abstractions Operator: Liverpool Football Club & Athletic Grounds Limited Licence Number: 2569031131 Permit Version: 3 Location: Borehole At Kirkby 2 Authority: Environment Agency, North West Region Abstraction: Sports Grounds/Facilities: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Liverpool Way, Kirkby Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 19th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15NE (E)	1517	2	342734 399168
	Water Abstractions Operator: Sonae (Uk) Limited Licence Number: 2569031146 Permit Version: 1 Location: Sonae Borehole, Knowsley, Merseyside Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th October 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1788	2	342984 399310
	Water Abstractions Operator: Sonae (Uk) Limited Licence Number: 2569031146 Permit Version: 1 Location: Sonae Borehole, Knowsley, Merseyside Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th October 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1788	2	342984 399310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Sonae (Uk) Limited Licence Number: 2569031146 Permit Version: 1 Location: Sonae Borehole, Knowsley, Merseyside Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th October 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1788	2	342984 399310
	Water Abstractions Operator: B.I.C.C Ltd. Licence Number: 2569031002 Permit Version: Not Supplied Location: Borehole, Melling, LIVERPOOL Authority: Environment Agency, North West Region Abstraction: Cooling & Boiler Feed & Drinking; Cooking; Sanitary; Washing For Industrial Premises Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 273 Yearly Rate (m3): 99330 Details: Additional Purposes: Boiler feed; Domestic - industrial; Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1863	2	339300 399300
	Water Abstractions Operator: British Waterways Board Licence Number: 2569030996 Permit Version: Not Supplied Location: Leeds & Liverpool Canal, Melling, LIVERPOOL Authority: Environment Agency, North West Region Abstraction: Manufacturing Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 0 Yearly Rate (m3): 455 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1982	2	339200 399395
	Water Abstractions Operator: British Waterways Board Licence Number: 2569030047 Permit Version: Not Supplied Location: Leeds & Liverpool Canal Authority: Environment Agency, North West Region Abstraction: Not Supplied Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Not Supplied Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1983	2	339200 399400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: <3m Superficial Recharge: High	A13NE (N)	0	4	341182 398912
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13NE (N)	0	4	341182 398912
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (N)	0	4	341182 398912
25	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13NE (N)	0	2	341182 398912
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1062.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A13NW (NW)	337	5	340855 399121
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Alt Primacy: 1	A18SW (NW)	555	5	340906 399429
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A18SW (NW)	556	5	340900 399428

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.6 Watercourse Level: Underground Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A7NE (SW)	580	5	340730 398470
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 347.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A7NE (SW)	588	5	340754 398438
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 79.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A18SW (NW)	595	5	340894 399467
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Alt Primacy: 1	A18SW (NW)	595	5	340894 399467
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 50.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Alt Primacy: 1	A18SW (NW)	597	5	340893 399470
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 113.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Simonswood Brook Catchment Name: Alt Primacy: 1	A18SW (NW)	671	5	340881 399544
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.4 Watercourse Level: Underground Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A18SW (NW)	671	5	340881 399544
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 232.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A18SW (N)	693	5	340919 399582
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.4 Watercourse Level: Underground Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A18NW (N)	742	5	341111 399685

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 381.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A18NW (N)	752	5	341143 399699
39	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 68.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Alt Primacy: 1	A17NE (NW)	776	5	340815 399631
40	OS Water Network Lines Watercourse Form: Transfer Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Alt Primacy: 1	A17NE (NW)	776	5	340815 399631
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 503.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Simonswood Brook Catchment Name: Alt Primacy: 1	A17NE (NW)	778	5	340820 399635
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.7 Watercourse Level: Underground Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A7SE (SW)	851	5	340767 398117
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1097.0 Watercourse Level: Underground Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A19NW (NE)	866	5	341651 399712
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 570.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A7SE (SW)	878	5	340757 398092
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A19NW (N)	895	5	341526 399798
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.3 Watercourse Level: Underground Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A19NW (N)	897	5	341518 399803

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Kirkby Brook Catchment Name: Alt Primacy: 1	A18NE (N)	904	5	341497 399817
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Alt Primacy: 1	A18NE (N)	915	5	341442 399844
	Water Framework Directive - Catchment Class Code: River Catchment WaterBody Name: Simonswood Brook WaterBody ID: GB112069060630 Operational: Alt Catchment: Alt and Crossens Management: Alt and Crossens Catchment: Alt and Crossens Catchment Name: Alt Crossens	A13NE (N)	0	2	341182 398912
	Water Framework Directive - Catchment Class Code: River Catchment WaterBody Name: Alt US Bull Bridge WaterBody ID: GB112069061441 Operational: Alt Catchment: Alt and Crossens Management: Alt and Crossens Catchment: Alt and Crossens Catchment Name: Alt Crossens	A17SE (NW)	706	2	340590 399380
	Water Framework Directive - Groundwater Waterbody Name: Lower Mersey Basin and North Merseyside Permo-Triassic Sandstone Aquifers Waterbody ID: GB41201G101700 URL Address: https://environment.data.gov.uk/catchment-planning/WaterBody/GB41201G101700 Overall Rating: Poor Chemical Rating: Poor Quantitative Measure: Poor Year: 2019	A13NE (N)	0	2	341182 398912

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	Historical Landfill Sites Licence Holder: Probably Local Authority Location: Cherryfield Drive, Kirkby, Merseyside Name: Landfill at Bewley Road/ Valley Road/ Cherryfield Drive Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06985 First Input Date: 31st December 1956 Last Input Date: 31st December 1974 Specified Waste: Deposited Waste included Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: GDO 205, K1/17/205	A8NW (SW)	442	2	340962 398477
	Local Authority Landfill Coverage Name: Knowsley Metropolitan Borough Council - Has supplied landfill data		0	6	341182 398912
	Local Authority Landfill Coverage Name: Merseyside Waste Disposal Authority - Has supplied landfill data		0	7	341182 398912
50	Local Authority Recorded Landfill Sites Location: Land Bounded By Bewley Road, Cherryfield Drive, Valley Road, Kirby, Knowsley Reference: GDO205 Authority: Knowsley Metropolitan Borough Council Last Reported Status: Closed Types of Waste: Not Supplied Date of Closure: 31/12/1974 Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A8NW (SW)	448	6	340955 398474
51	Local Authority Recorded Landfill Sites Location: Bewley Road/ Cherryfield Drive, Knowsley Reference: K011 Authority: Merseyside Waste Disposal Authority Last Reported Status: Unknown Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	A8NW (SW)	629	7	340900 398300
52	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A14NW (E)	457	-	341676 399061
53	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A19SW (NE)	468	-	341548 399299
54	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A8NW (S)	485	-	341100 398387
55	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A18NE (N)	897	-	341258 399849
56	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A17SW (NW)	917	-	340320 399358
57	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A13NW (NW)	138	-	341091 399054
58	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A13SW (SW)	186	-	340985 398776

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A18SW (N)	333	-	341126 399269
60	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A18SW (NW)	347	-	341022 399252
61	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A18SE (N)	389	-	341227 399342
62	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A18SE (N)	412	-	341177 399361
63	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A14SW (SE)	427	-	341578 398671
64	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A8NE (SE)	452	-	341445 398484
65	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A8NE (SE)	457	-	341415 398460
66	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SE (SW)	596	-	340613 398596
67	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A8NE (S)	634	-	341443 398278
68	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A12SW (W)	649	-	340487 398777
69	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A12SW (W)	682	-	340462 398737
70	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A8SE (S)	709	-	341424 398191
71	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A12SW (W)	720	-	340426 398726
72	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A12NW (W)	776	-	340347 398952
73	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A17NE (NW)	784	-	340828 399646
74	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A12SW (W)	840	-	340296 398756
75	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A14NE (E)	864	-	342062 399195
76	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A7NW (SW)	868	-	340356 398498
77	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SW (W)	871	-	340300 398620
78	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A19SE (NE)	890	-	341950 399479
79	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A8SW (S)	920	-	340921 397985

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A14NE (E)	940	-	342146 399176
81	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A19SE (NE)	946	-	342078 399376
82	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A7NW (SW)	985	-	340267 398418
83	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1850	A19NE (NE)	998	-	341914 399683

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13NE (N)	0	1	341182 398912
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (N)	0	1	341182 398912
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	8	1	341167 398946
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (W)	122	1	341000 398912
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	145	1	341000 398992
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	163	1	341000 398793
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (W)	183	1	340961 399000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14NW (NE)	401	1	341579 399154
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NE (W)	424	1	340725 399060
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NE (W)	437	1	340694 399000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (NW)	514	1	340918 399390
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NW (W)	628	1	340500 399000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NW (W)	629	1	340499 399000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 120 - 180 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8SE (S)	862	1	341182 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9SW (S)	919	1	341515 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: 1.8 - 2.2 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: 200 - 300 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A19SE (NE)	943	1	342000 399500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NE (SE)	956	1	341920 398237
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 100 - 200 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A7SE (SW)	987	1	340697 398000
84	BGS Recorded Mineral Sites Site Name: Webster'S Pits Location: Southdene, Kirkby, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95035 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A8NW (S)	484	1	341122 398384

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	BGS Recorded Mineral Sites Site Name: Old Rough Delf Location: Northwood, Kirkby, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95032 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian, Triassic Geology: Sherwood Sandstone Group Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NW (E)	532	1	341749 399078
86	BGS Recorded Mineral Sites Site Name: Mercer'S Delf Location: Northwood, Kirkby, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 95031 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian, Triassic Geology: Sherwood Sandstone Group Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A18NE (N)	874	1	341301 399824
87	BGS Recorded Mineral Sites Site Name: Dearbolt Delf Location: Kirkby Park, Kirkby, Merseyside Source: British Geological Survey, National Geoscience Information Service Reference: 95022 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Triassic Geology: Wilmslow Sandstone Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	965	1	340300 399420
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	341178 398918
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	341178 398918

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	68	1	341170 399010
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	230	1	340914 398809
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	68	1	341170 399010
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	230	1	340914 398809
	Radon Potential - Radon 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). Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	0	1	341182 398912

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	Contemporary Trade Directory Entries Name: Kirkby Family Centre Location: Hall Lane, Kirkby, Liverpool, Merseyside, L32 1TZ Classification: Car Breakdown & Recovery Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A13NW (NW)	60	-	341127 398984
89	Contemporary Trade Directory Entries Name: Special Effects Location: 8, Telegraph Way, Liverpool, L32 8US Classification: Clothing Accessory Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	62	-	341275 398893
90	Contemporary Trade Directory Entries Name: Kirkby Blinds Location: In Shops, Telegraph Way, Liverpool, L32 8US Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	104	-	341287 398810
90	Contemporary Trade Directory Entries Name: Solarshade Location: Unit 33, In Shops, Telegraph Way, Liverpool, L32 8US Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	104	-	341287 398810
90	Contemporary Trade Directory Entries Name: Morrisons Petrol Station Location: MORRISONS UNIT 1, TELEGRAPH WAY, KIRKBY TOWN CENTRE, L32 8US Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	107	-	341286 398804
91	Contemporary Trade Directory Entries Name: Lazer Electronics Location: 46, St. Chads Parade, Liverpool, L32 8RH Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (S)	105	-	341180 398758
92	Contemporary Trade Directory Entries Name: Telegraph Service Stations Ltd Location: Irlam Drive, Liverpool, L32 8RJ Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (E)	131	-	341363 398963
93	Contemporary Trade Directory Entries Name: Liverprint Location: 26, St. Chads Parade, Liverpool, L32 8RH Classification: Printers Textile Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (S)	133	-	341230 398733
93	Contemporary Trade Directory Entries Name: Johnson Cleaners (Uk) Ltd Location: 11b, St. Chads Parade, Liverpool, Merseyside, L32 8RD Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (S)	157	-	341194 398705
93	Contemporary Trade Directory Entries Name: Heron Frozen Foods Location: Cherryfield Drive, Liverpool, L32 8RX Classification: Frozen Food Processors & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	183	-	341165 398682
94	Contemporary Trade Directory Entries Name: Klick Location: 29a, St. Chads Parade, Liverpool, L32 8UG Classification: Photographic Processors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	143	-	341138 398731

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	Contemporary Trade Directory Entries Name: Brighthouse Location: 82-84, St. Chads Parade, Liverpool, L32 8UG Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	144	-	341106 398741
94	Contemporary Trade Directory Entries Name: Iceland Frozen Foods Location: 31, St. Chads Parade, Liverpool, L32 8UG Classification: Frozen Food Processors & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	159	-	341124 398720
95	Contemporary Trade Directory Entries Name: Classic Colour Centres Ltd Location: 18, St. Chads Parade, Liverpool, L32 8RH Classification: Wallpapers & Wall Coverings Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	149	-	341264 398729
95	Contemporary Trade Directory Entries Name: En Vogue Location: 12, St. Chads Parade, Liverpool, L32 8RH Classification: Homefurnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	162	-	341281 398723
95	Contemporary Trade Directory Entries Name: Kirkby Rollers Location: 8, St. Chads Parade, Liverpool, Merseyside, L32 8RH Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	171	-	341303 398728
95	Contemporary Trade Directory Entries Name: Kirkby Blinds Ltd Location: 8, St. Chads Parade, Liverpool, L32 8RH Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	182	-	341296 398710
95	Contemporary Trade Directory Entries Name: Material Girls Location: 11, Market Square, Kirkby, Liverpool, L32 8RG Classification: Recycling Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	182	-	341324 398732
95	Contemporary Trade Directory Entries Name: Kirkby Blindz Ltd Location: KIRKBY CREDIT UNION, 11, MARKET SQUARE, KIRKBY TOWN CENTRE, L32 8RG Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	187	-	341329 398730
96	Contemporary Trade Directory Entries Name: A P W Electrical Supplies Ltd Location: A, 2, Church Green, Kirkby, Liverpool, Merseyside, L32 1TB Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	174	-	341327 399100
97	Contemporary Trade Directory Entries Name: Supreme Finish Cleaning Services Ltd Location: 45, Scoter Road, Liverpool, L33 0XZ Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	303	-	341525 398873
98	Contemporary Trade Directory Entries Name: Rts The Print & Copy Centre (Uk) Ltd Location: Roughwood Drive, Liverpool, L33 8XF Classification: Copying & Duplicating Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (NE)	357	-	341551 399114

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	Contemporary Trade Directory Entries Name: J Ellis Cleaning Specialists Location: 10, Thistley Hey Road, Liverpool, L32 8SS Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	488	-	341577 398557
100	Contemporary Trade Directory Entries Name: Careclean Location: 1, Ashmuir Hey, Liverpool, L32 8UN Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A9NW (SE)	622	-	341690 398483
101	Contemporary Trade Directory Entries Name: Knowsley Community Recycling Services Location: 83, Kennelwood Avenue, Liverpool, L33 6UE Classification: Recycling Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	702	-	341766 399409
102	Contemporary Trade Directory Entries Name: Wash N Glo Launderette Location: 21, OLD ROUGH LANE, NORTHWOOD, LIVERPOOL, L33 6XE Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	730	-	341962 398945
103	Contemporary Trade Directory Entries Name: Essar Bigdale Service Station Location: Bigdale Drive, Liverpool, L33 6XG Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	731	-	341958 399038
103	Contemporary Trade Directory Entries Name: Auto Respray Location: Bigdale Drive, Liverpool, L33 6XG Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	731	-	341958 399038
103	Contemporary Trade Directory Entries Name: Bigdale Service Station Location: Bigdale Drive, Liverpool, L33 6XG Classification: Petrol Filling Stations - 24 Hour Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	731	-	341958 399038
103	Contemporary Trade Directory Entries Name: O K Tyres Location: Unit 4 Bigdale Drive, Liverpool, Merseyside, L33 6XG Classification: Tyre Dealers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A14NE (E)	731	-	341958 399038
104	Contemporary Trade Directory Entries Name: Able Waste Location: 10, Retford Walk, Liverpool, L33 5YH Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	750	-	341970 398819
105	Contemporary Trade Directory Entries Name: Press 2 Dress Location: 31, Bigdale Drive, Liverpool, L33 6XQ Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	801	-	342001 399177
106	Contemporary Trade Directory Entries Name: Diamond Home Support - South Liverpool Location: 33, Rowan Drive, Liverpool, L32 0SF Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	815	-	340390 399270
107	Contemporary Trade Directory Entries Name: Buffer Boys Location: 1, Seathwaite Crescent, Liverpool, L33 2DN Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	818	-	340935 399719

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	Contemporary Trade Directory Entries Name: Lovejo-X Location: 9, Deerbolt Crescent, Liverpool, L32 2BE Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	833	-	340490 399458
109	Contemporary Trade Directory Entries Name: End Stop Roller Shutters Location: 15, Daresbury Close, Liverpool, L32 0XH Classification: Roller Shutter Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	839	-	340357 398564
110	Contemporary Trade Directory Entries Name: Easy Iron Location: 6, Glovers Brow, Liverpool, Merseyside, L32 2AE Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	929	-	340312 399369
110	Contemporary Trade Directory Entries Name: Tops Pharmacy Location: 5, Glovers Brow, Liverpool, L32 2AE Classification: Chemists' & Pharmacists' Suppliers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	930	-	340313 399372
111	Fuel Station Entries Name: Morrisons Kirkby Location: Telegraph Way , Kirkby , Liverpool, Merseyside, L32 8US Brand: Morrisons Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A13SE (E)	175	-	341394 398886
112	Fuel Station Entries Name: Cherryfield Drive Service Station Location: Cherryfield Drive , Kirkby , Liverpool, Merseyside, L32 8SE Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Approximate location provided by supplier	A13SE (S)	257	-	341179 398606
113	Fuel Station Entries Name: Bigdale Service Station Location: Bigdale Drive , Kirkby , Liverpool, Merseyside, L33 6XG Brand: Essar Premises Type: Petrol Station Status: Open Positional Accuracy: Automatically positioned to the address	A14NE (E)	731	-	341958 399038
114	Points of Interest - Commercial Services Name: Knowsley Community Recycling Services Location: 83 Kennelwood Avenue, Liverpool, L33 6UE Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A19SW (NE)	702	8	341766 399409
115	Points of Interest - Commercial Services Name: Gleam Machine Location: 203 Bewley Drive, Southdene, Kirkby, L32 9PF Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SW (S)	821	8	340968 398074
116	Points of Interest - Commercial Services Name: Madigan International Location: 17 Cleveland Close, Liverpool, L32 2BH Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A17NE (NW)	944	8	340524 399647
117	Points of Interest - Commercial Services Name: Motor Worx Location: 26 Morston Avenue, Southdene, Kirkby, L32 9PZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A3NE (S)	984	8	341292 397883

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
118	Points of Interest - Manufacturing and Production Name: Tanks Location: L33 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NE (E)	289	8	341508 399039
119	Points of Interest - Public Infrastructure Name: Morrisons Petrol Station Location: Morrisons Unit 1, Telegraph Way, Kirkby Town Centre, L32 8US Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13SE (SE)	107	8	341286 398804
120	Points of Interest - Public Infrastructure Name: Morrisons Kirkby Location: Telegraph Way, Kirkby, Liverpool, L32 8US Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13SE (E)	175	8	341394 398886
121	Points of Interest - Public Infrastructure Name: Bus Station Location: L32 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A13SW (SW)	197	8	341084 398692
121	Points of Interest - Public Infrastructure Name: Bus Station Location: L32 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	205	8	341064 398691
122	Points of Interest - Public Infrastructure Name: Kirkby Police Station Location: Kirkby Police Station, St Chads Drive, Kirkby Town Centre, L32 8RF Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A13SE (SE)	309	8	341470 398719
122	Points of Interest - Public Infrastructure Name: Community Fire Station Location: Fire Station, Webster Drive, Liverpool, L32 8SJ Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A13SE (SE)	326	8	341446 398651
122	Points of Interest - Public Infrastructure Name: Merseyside Fire & Rescue Service Location: Fire Station, Webster Drive, Liverpool, L32 8SJ Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A13SE (SE)	326	8	341446 398651
122	Points of Interest - Public Infrastructure Name: Kirkby Fire Station Location: Kirkby Community Fire Station, Webster Drive, Kirkby Town Centre, L32 8SJ Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A13SE (SE)	327	8	341446 398651
123	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	353	8	340771 398872
123	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	370	8	340752 398891
123	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	374	8	340748 398890

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
124	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	363	8	340773 398809
124	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	369	8	340767 398808
124	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	374	8	340776 398767
124	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	379	8	340770 398766
124	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	383	8	340761 398779
124	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	387	8	340757 398780
125	Points of Interest - Public Infrastructure Name: Knowsley Community Recycling Services Location: 83 Kennelwood Avenue, Liverpool, L33 6UE Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A19SW (NE)	702	8	341766 399409
125	Points of Interest - Public Infrastructure Name: Knowsley Community Recycling Services Location: 83 Kennelwood Avenue, Liverpool, L33 6UE Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A19SW (NE)	702	8	341766 399409
126	Points of Interest - Public Infrastructure Name: Bigdale Service Station Location: Bigdale Drive, Liverpool, L33 6XG Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A14NE (E)	731	8	341958 399038
126	Points of Interest - Public Infrastructure Name: Essar Bigdale Service Station Location: Amoco Service Station, Bigdale Drive, Northwood, Kirkby, L33 Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A14NE (E)	731	8	341958 399038
126	Points of Interest - Public Infrastructure Name: Bigdale Service Station Location: Amoco Service Station, Bigdale Drive, Northwood, Kirkby, L33 Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A14NE (E)	731	8	341958 399038
127	Points of Interest - Public Infrastructure Name: Able Waste Location: 10 Retford Walk, Liverpool, L33 5YH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SE (E)	750	8	341970 398819

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
127	Points of Interest - Public Infrastructure Name: Able Waste Services Location: 10 Retford Walk, Liverpool, L33 5YH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SE (E)	750	8	341970 398819
128	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	880	8	340765 398086
128	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	885	8	340758 398084
128	Points of Interest - Public Infrastructure Name: Outfall Location: L32 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	972	8	340720 398005
129	Points of Interest - Public Infrastructure Name: Kirkby Rail Station Location: L32 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12NW (W)	974	8	340195 399210
129	Points of Interest - Public Infrastructure Name: Kirkby Station Location: Glover'S Brow, L32 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12NW (W)	974	8	340195 399210
130	Points of Interest - Recreational and Environmental Name: Play Area Location: L32 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	509	8	341457 398425
130	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	516	8	341387 398382
131	Points of Interest - Recreational and Environmental Name: Play Area Location: L33 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	556	8	341751 399152
132	Points of Interest - Recreational and Environmental Name: Play Area Location: L33 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	607	8	341759 399255
133	Points of Interest - Recreational and Environmental Name: Playground Location: Quarry Dale, L33 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NE (E)	659	8	341887 399031
133	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	662	8	341890 399028

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
134	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	753	8	341675 398280
134	Points of Interest - Recreational and Environmental Name: Playground Location: Wellfield Avenue, L32 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	753	8	341675 398281
135	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	830	8	340664 399610
135	Points of Interest - Recreational and Environmental Name: Playground Location: Mill Lane, L32 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	830	8	340664 399610
136	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	924	8	341910 398274
136	Points of Interest - Recreational and Environmental Name: Playground Location: Edgefold Road, L32 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	924	8	341910 398274

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	Nitrate Vulnerable Zones Name: Alt Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NE (N)	0	2	341182 398912

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Environment Agency - Head Office Sefton Metropolitan Borough Council - Environmental Health Department St Helens Metropolitan Borough Council - Environmental Protection Department West Lancashire District Council - Environmental Services Knowsley Metropolitan Borough Council - Department of Planning and Development Liverpool City Council - Liverpool Environmental Health & Trading Standards Division	November 2023 October 2017 October 2017 October 2017 September 2017 September 2017	Annually Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - North West Region	October 2024	Quarterly
Enforcement and Prohibition Notices Environment Agency - North West Region	March 2013	
Integrated Pollution Controls Environment Agency - North West Region	January 2009	
Integrated Pollution Prevention And Control Environment Agency - North West Region	October 2024	Quarterly
Local Authority Integrated Pollution Prevention And Control St Helens Metropolitan Borough Council - Environmental Health Department Liverpool City Council - Liverpool Environmental Health & Trading Standards Division Knowsley Metropolitan Borough Council - Environmental Health and Consumer Protection Division Sefton Metropolitan Borough Council - Environmental Health Department West Lancashire District Council - Environmental Health Department	December 2014 December 2015 January 2015 July 2015 October 2014	Variable Variable Variable Variable Variable
Local Authority Pollution Prevention and Controls St Helens Metropolitan Borough Council - Environmental Health Department Liverpool City Council - Liverpool Environmental Health & Trading Standards Division Knowsley Metropolitan Borough Council - Environmental Health and Consumer Protection Division Sefton Metropolitan Borough Council - Environmental Health Department West Lancashire District Council - Environmental Health Department	December 2014 December 2015 January 2015 July 2015 October 2014	Annual Rolling Update Annually Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements St Helens Metropolitan Borough Council - Environmental Health Department Liverpool City Council - Liverpool Environmental Health & Trading Standards Division Knowsley Metropolitan Borough Council - Environmental Health and Consumer Protection Division Sefton Metropolitan Borough Council - Environmental Health Department West Lancashire District Council - Environmental Health Department	December 2014 December 2015 January 2015 July 2015 October 2014	Variable Variable Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	November 2024	
Pollution Incidents to Controlled Waters Environment Agency - North West Region	January 2000	
Historical Prosecutions Environment Agency, North West Region	March 2013	Not Applicable
Registered Radioactive Substances Environment Agency - Head Office Environment Agency - North West Region	May 2023 May 2023	
Substantiated Pollution Incident Register Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area Environment Agency - North West Region - South Area	October 2024 October 2024 October 2024	Quarterly Quarterly Quarterly
Water Abstractions Environment Agency - North West Region	October 2024	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	October 2017	

Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Map 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	As notified
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	December 2023	As notified
Areas Benefiting from Flood Defences Environment Agency - Head Office	February 2023	
Flood Water Storage Areas Environment Agency - Head Office	January 2024	Quarterly
Flood Defences Environment Agency - Head Office	August 2022	
OS Water Network Lines Ordnance Survey	October 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
Water Framework Directive - Catchment Environment Agency - Head Office	July 2024	Annually
Water Framework Directive - Groundwater Environment Agency - Head Office	July 2024	Annually

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	October 2024	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - North West Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area Environment Agency - North West Region - South Area	November 2024 November 2024 November 2024	Quarterly Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area Environment Agency - North West Region - South Area	October 2024 October 2024 October 2024	Quarterly Quarterly Quarterly
Local Authority Landfill Coverage Knowsley Metropolitan Borough Council Lancashire County Council - Waste Management Group Liverpool City Council - Liverpool Environmental Health & Trading Standards Division Merseyside Waste Disposal Authority Sefton Metropolitan Borough Council - Environmental Health Department St Helens Metropolitan Borough Council West Lancashire District Council - Environmental Health Department	February 2003 February 2003 February 2003 February 2003 February 2003 February 2003 February 2003	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Knowsley Metropolitan Borough Council Lancashire County Council - Waste Management Group Liverpool City Council - Liverpool Environmental Health & Trading Standards Division Merseyside Waste Disposal Authority Sefton Metropolitan Borough Council - Environmental Health Department St Helens Metropolitan Borough Council West Lancashire District Council - Environmental Health Department	October 2018 October 2018 October 2018 October 2018 October 2018 October 2018 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 - North West Region - Central Area Environment Agency - North West Region - North Area Environment Agency - North West Region - South Area	March 2006 March 2006 March 2006	Not Applicable Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area Environment Agency - North West Region - South Area	April 2018 April 2018 April 2018	
Registered Waste Treatment or Disposal Sites Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area Environment Agency - North West Region - South Area	June 2015 June 2015 June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	September 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 Lancashire County Council Knowsley Metropolitan Borough Council St Helens Metropolitan Borough Council West Lancashire District Council Liverpool City Council Sefton Metropolitan Borough Council	April 2023 August 2015 February 2016 February 2016 January 2016 May 2023	Variable Variable Variable Variable Variable Variable
Planning Hazardous Substance Consents Knowsley Metropolitan Borough Council Lancashire County Council Sefton Metropolitan Borough Council St Helens Metropolitan Borough Council West Lancashire District Council Liverpool City Council	August 2015 February 2016 February 2016 February 2016 February 2016 January 2016	Variable Variable Variable Variable Variable Variable

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	March 2024	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 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	November 2024	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	November 2024	Annually
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	December 2024	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2024	Quarterly
Points of Interest - Commercial Services PointX	December 2024	Quarterly
Points of Interest - Education and Health PointX	December 2024	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2024	Quarterly
Points of Interest - Public Infrastructure PointX	December 2024	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2024	Quarterly
Underground Electrical Cables National Grid	January 2024	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	November 2024	Bi-Annually
Areas of Adopted Green Belt Knowsley Metropolitan Borough Council Liverpool City Council Sefton Metropolitan Borough Council St Helens Metropolitan Borough Council West Lancashire District Council	July 2024 July 2024 July 2024 July 2024 July 2024	Quarterly Quarterly Quarterly Quarterly Quarterly
Areas of Unadopted Green Belt Knowsley Metropolitan Borough Council Liverpool City Council Sefton Metropolitan Borough Council St Helens Metropolitan Borough Council West Lancashire District Council	July 2024 July 2024 July 2024 July 2024 July 2024	Quarterly Quarterly Quarterly Quarterly Quarterly
Areas of Outstanding Natural Beauty Natural England	November 2024	Bi-Annually
Environmentally Sensitive Areas Natural England	August 2023	
Forest Parks Forestry Commission	May 2023	Not Applicable
Local Nature Reserves Natural England	August 2024	Bi-Annually
Marine Nature Reserves Natural England	August 2024	Bi-Annually
National Nature Reserves Natural England	January 2025	Bi-Annually
National Parks Natural England	September 2024	Bi-Annually
Nitrate Sensitive Areas Natural England	April 2023	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Environment Agency - Head Office	April 2016 November 2024	Annually
Ramsar Sites Natural England	August 2024	Bi-Annually
Sites of Special Scientific Interest Natural England	November 2024	Bi-Annually
Special Areas of Conservation Natural England	October 2024	Bi-Annually
Special Protection Areas Natural England	November 2024	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
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	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

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 Website: www.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	Knowsley Metropolitan Borough Council - Environmental Health and Consumer Protection Division Municipal Buildings, Cherryfield Drive, Kirkby, Knowsley, Merseyside, L32 1TX	Telephone: 0151 443 4731 Fax: 0151 289 7488 Website: www.knowsley.gov.uk
4	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.co.uk
6	Knowsley Metropolitan Borough Council Archway Road, Huyton, Liverpool, Merseyside, L36 9YU	Telephone: 0151 489 6000 Fax: 0151 443 2298 Website: www.knowsley.gov.uk
7	Merseyside Waste Disposal Authority 2nd Floor, North House, 17 North John Street, Liverpool, Merseyside, L2 5QY	Telephone: 0151 2551444 Fax: 0151 2271848 Email: enquiries@merseysidewda.gov.uk
8	PointX 5-6 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	Sefton Metropolitan Borough Council Magdalen House, 30 Trinity Road, Bootle, Merseyside, L20 3NJ	Telephone: 0151 922 4040 Fax: 0151 934 3587 Website: www.sefton.gov.uk
10	West Lancashire District Council Westec House, 52 Derby Street, Ormskirk, Lancashire, L39 2DF	Telephone: 01695 577177 Fax: 01695 571079 Website: www.westlancsdc.gov.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 Website: www.ukradon.org
-	Landmark Information Group Limited Landmark Information Group, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0330 036 6618 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

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



APPENDIX D

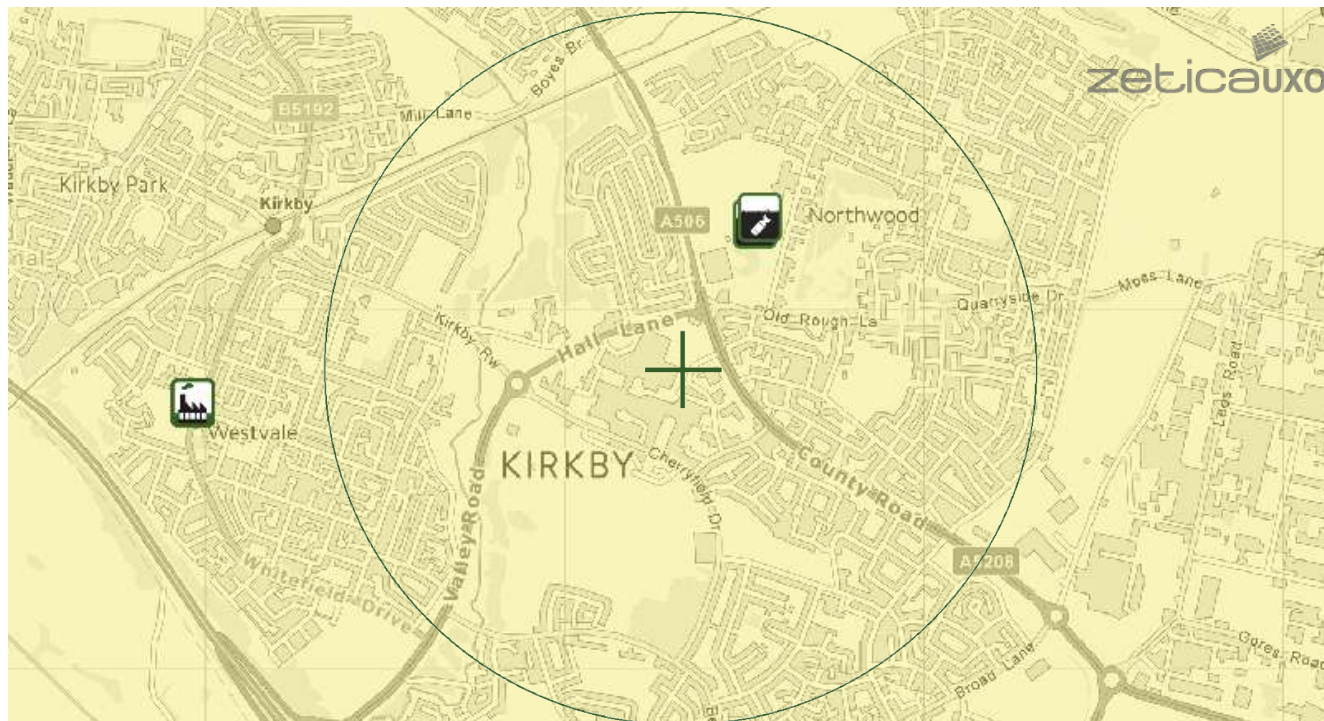
Zetica UXO Risk Mapping

UNEXPLODED BOMB RISK MAP



SITE LOCATION

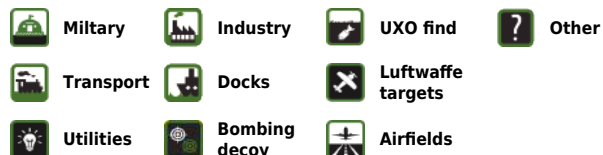
Location: L32 8US,
Map Centre: 341293,398839



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

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



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

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

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

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

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: [+44 \(0\) 1993 886682](tel:+44201993886682) email: uxo@zetica.com web: www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

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Phase 2 Ground Investigation

Client: Lidl Great Britain
Ltd

Telegraph Way, Kirkby

Report No: 1373.02.01

April 2025





Executive Summary

Remada Ltd was commissioned by Lidl Great Britain Ltd to conduct a Phase 2 Ground Investigation at Telegraph Way, Kirkby L32 8US. This report follows a Phase 1 Preliminary Risk Assessment (Remada report reference 1373.01.01 dated February 2025).

Summary of Phase 1 Desk Study

The site occupies a broadly triangular plot to the south of A506 Hall Lane and to the east and north-east of Telegraph Way. The majority of the site comprises an asphalt surfaced car park (named Hall Lane Car Park), accessed via Telegraph Way along the western boundary. The remainder of the site is occupied by soft landscaping, particularly in the east and north-western corner. No buildings are indicated to be present at the time of writing, although several lamp posts are indicated to be present associated with Hall Lane Car Park.

The earliest available mapping of 1850 indicates the site to comprise a field which extends off-site towards the east and west, with no structures indicated to be present. Development on-site is recorded between the mapping of 1966 and 1977, when the present-day car park appears to have been constructed in the western and central sectors of the site. Telegraph Way is indicated to within the eastern margins of the site, with associated access roads and footpaths. Between 2006 and 2024, the route of Telegraph Way and associated access roads / footpaths in the eastern area of the site are no longer shown. Their positions have been replaced by the existing grassed landscaping and trio of footpaths radiating out from the on-site car park.

Published geological mapping indicates the eastern and southern areas of the site to be underlain by Made Ground deposits. The superficial deposits underlying the site are indicated to comprise Shirdley Hill Sand, designated as a Secondary (A) Aquifer. The underlying bedrock is indicated to comprised Chester Formation sandstone, designated as a Principal Aquifer. The site is located within an Environment Agency-designated Zone III (Total Catchment) Source Protection Zone.

Proposed development

An indicative site layout is indicated in **Figure 3** with the proposed Lidl store zone being in the east of the site, in the location of existing flat landscape and partly within the existing car park. The proposed layout indicates that the customer car park is not within the existing site boundary and that land between the proposed store footprint and Hall Lane will be a service yard for HGV access to the delivery bay.

Intrusive Investigation

The investigation comprised the drilling of nine (9 No) window sample holes (WS01 – WS09 and four (4 No) CBR tests at locations indicated on **Figure 2** between 12th March and 8th April 2025.

The ground investigation revealed Made Ground to a maximum depth of 1.3m in the south of the proposed store footprint. Dependent upon location both CLAY and SAND were observed directly beneath the Made Ground.

Dependent upon location both CLAY and SAND were observed directly beneath the Made Ground. Within the south-east of the proposed store footprint at WS05A SAND (N=7) was observed overlying CLAY (N = 7) to 1.7m bgl overlying dense SAND (N = 32). At WS4 in the south-west corner of the proposed store footprint SAND was present from 1.3 to 2.0m overlying stiff CLAY (N = 15). However, CLAY was present directly beneath the Made Ground at WS06 just to the west of the proposed footprint. SAND was present at WS02 in west of the proposed footprint to a depth of 2m overlying stiff CLAY (N= 15), whilst firm CLAY was present in the east to 1m bgl overlying loose SAND (N = 6) to 1.6m bgl overlying firm CLAY (N = 14). Further to the west, beneath the service yard, loose SAND (N = 2) was found to overlie soft CLAY (N = 6). At WS01 beneath the proposed warehouse in the north of the footprint loose SAND



(N=8) was underlain PEAT from 1.8 to 2.0m bgl overlying loose SAND (N=4). SPT refusals (N = 50) were recorded at between 2.9 and 4.0m in the proposed store footprint.

Resting groundwater levels were recorded at between 1.22 and 2.03m bgl.

Human Health Assessment

The results of soil chemical analysis were compared to Human Health Generic Assessment Criteria for commercial land use. None of the analytes tested were detected at concentrations that exceeded the human health GAC protective of on-site workers.

Water Resources Assessment

The results of the soil chemical analysis undertaken has identified that concentrations of metals and inorganic contaminants are within the range of typical made ground. Detectable concentrations of TPH and PAHs were encountered in some samples. However, the contaminants identified are of low solubility and mobility and as such are unlikely to present a risk to groundwater beneath the site. In addition, it should be noted that the site will be predominantly covered with the building and areas of hardstanding. Therefore, the risk of leaching of contaminants as a result of infiltration of groundwater is likely to be limited. Therefore, the risk to groundwater from contaminants within the made ground at the site is considered to be low and does not warrant further consideration.

Waste Classification

In general, the results of the chemical analysis indicates that the material would be classified as non hazardous waste. WAC testing is not required for disposal of non hazardous waste to landfill.

The results of chemical analysis on two samples of asphalt found that the concentrations of PAHs were low. Therefore, the bituminous surfacing represented by this sample would be classified as non - hazardous waste and assigned the List of Wastes code 17 03 02 for bituminous mixtures other than those mentioned in 17 03 01.

Geotechnical Assessment – Lidl Store

Due to the presence of PEAT in the north of the proposed store footprint and loose SAND, soft and firm CLAY dependent upon on location there is a potential for unacceptable amount of differential settlement. Consequently, the bearing capacity of the made ground, loose SAND and soft cohesive deposits should be increased by vibro-ground improvement to achieve the required bearing capacity. It is recommended that specialist advice is sought from a ground improvement contractor with regard to the suitability of this technique due presence of PEAT. The bearing capacity required for either a raft, pad foundations and floor slab should be specified by the engineer and proven by in-situ plate bearing tests to prove the performance of the improved ground.

A Design Sulphate Class DS-1 is considered appropriate for buried concrete and an ACEC Class of AC-1 is considered appropriate for the location.

Due to the presence of Made Ground, loose SAND and PEAT temporary excavations are likely to remain stable even in the short term without support or without being battered back to a safe slope gradient. A detailed inspection of the side slopes should be made during excavation and a risk assessment carried out to fully assess the support measures required.

Ground Gas

The results of four rounds of gas monitoring visits placed the site into Characteristic Situation 1 and therefore ground gas protection measures will not be required within the proposed buildings.

The site is located in a Lower Probability Radon Area as less than 1% of properties are above the Action Level but no radon protective measures are necessary.



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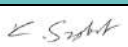
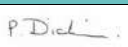
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Issue No	Date	Prepared By	Technical Review	Authorised
01	28.04.2025	K Szybut 	P Dickinson 	G Jones 



1 INTRODUCTION

Remada Ltd was commissioned by Lidl Great Britain Ltd (hereafter 'the Client') to undertake a Phase 2 Ground Investigation at Telegraph Way, Kirkby L32 8US at the location indicated in **Figure 1**.

1.1 Objectives

The objectives of this assessment are as follows:

- to examine whether there have been any potentially contaminative uses on the site or nearby land;
- to develop a conceptual model of the site to identify plausible pollutant linkages;
- to assess ground conditions in relation to the proposed development in relation to construction design issues including the presence, nature, likely severity and extent of soil and groundwater contamination, which may be present, its potential environmental impact and likely requirement for further work; and
- Provide preliminary foundation design recommendations for the proposed development.

1.2 Scope of Work

The scope and layout of this investigation and report is generally in accordance with BS10175:2011+A2 2017 and the Environment Agency's Land Contamination Risk Management guidance for land contamination reports.

The scope of work comprised:

- 5 No window sample boreholes to target depths of 7m including SPTs;
- 4 No window sample boreholes to target depths of 5m including SPTs;
- 3 No combined groundwater and gas monitoring standpipes installed with window sample boreholes;
- 4 No California Bearing Ratio (CBR) tests;
- Suite of geotechnical classification and strength tests;
- 5 No soil sample suites for chemical analysis of CLEA metals, asbestos, speciated hydrocarbons, cyanide and phenols to delineate any potential soil contamination;
- 4 No ground gas and groundwater monitoring visits to satisfy planning requirements; and
- Combined Factual & Interpretative Geoenvironmental Report.

The investigation methodology is presented in **Section 3**, Findings in **Section 4** and the Exploratory Hole Locations are indicated on **Figure 2**.

1.3 Proposed Development

It is understood that the proposed site use for the majority of the site will be a Lidl retail store with a delivery bay area and soft landscaping. This development will comprise a site area of 2239m² fronting onto Kirkby retail park car park as shown in **Figure 3**.

1.4 Previous Reports

The following Phase 1 Desk Study had been previously prepared for the site:

- Phase 1 Site Investigation & Preliminary Risk Assessment. Remada Ltd Report ref: 1373.01.01 issued in February 2025.



1.5 Limitations

The comments given in this report and the opinions expressed are based on the information reviewed and observations during site work. However, there may be conditions pertaining to the site that have not been disclosed by this assessment and therefore could not be taken into account.



2 SUMMARY OF PHASE 1 DESK STUDY

The Executive Summary and Conceptual Site Model presented within the Phase 1 Desk Study are reproduced below:

Site Setting

*The site occupies a broadly triangular plot to the south of A506 Hall Lane and to the east and north-east of Telegraph Way as indicated in **Figure 2**. The majority of the site comprises an asphalt surfaced car park (named Hall Lane Car Park), accessed via Telegraph Way along the western boundary. The remainder of the site is occupied by soft landscaping, particularly in the east and north-western corner. No buildings are indicated to be present at the time of writing, although several lamp posts are indicated to be present associated with Hall Lane Car Park.*

It is understood that the proposed site use for the site will be a Lidl retail store with associated delivery bay and soft landscaping. This development will comprise a site area of 2239 sqm fronting onto Kirkby Retail Park.

Site History

The earliest available mapping of 1850 indicates the site to comprise a field which extends off-site towards the east and west, with no structures indicated to be present. Development on-site is recorded between the mapping of 1966 and 1977, when the present-day car park appears to have been constructed in the western and central sectors of the site. Telegraph Way is indicated to within the eastern margins of the site, with associated access roads and footpaths. Between 2006 and 2024, the route of Telegraph Way and associated access roads / footpaths in the eastern area of the site are no longer shown. Their positions have been replaced by the existing grassed landscaping and trio of footpaths radiating out from the on-site car park.

Geology / Hydrogeology

Published geological mapping indicates the eastern and southern areas of the site to be underlain by Made Ground deposits. The superficial deposits underlying the site are indicated to comprise Shirdley Hill Sand, designated as a Secondary (A) Aquifer. The underlying bedrock is indicated to comprised Chester Formation sandstone, designated as a Principal Aquifer. The site is located within an Environment Agency-designated Zone III (Total Catchment) Source Protection Zone.

Mining

The site is located within an area which 'might not be' affected by coal mining activity and is not located within a Coal Authority designated Coal Mining Reporting Area. Consequently, no further action is considered necessary at this stage relating to coal mining at and beneath the site.

Radon

The site is located in a Lower Probability Radon Area as less than 1% of properties are above the Action Level but no radon protective measures are necessary.

Environmental Risk Assessment

The desk study has identified a number of on-site and off-site potential sources of contamination that would require further investigation. The following is recommended:

- *Investigation of the lateral and vertical extent of made ground/fill beneath the proposed store;*
- *Collection of soil and groundwater samples from the areas identified above for contaminants of concern; and*
- *Ground gas monitoring.*

Geotechnical Assessment

It is recommended that a ground investigation is undertaken to enable preliminary foundation design.



Potential Source Areas	Potential Contaminant of Concern	Pathways	Potential Receptor	Exposure Route (Human unless otherwise stated)	Potential Identified Linkage (unmitigated)	Findings of Ground investigation	Risk (Un-mitigated)	Proposed Remediation (Mitigation) Measures	Residual Risk Estimation
On-site Sources				Direct Soil Ingestion	N/A	N/A	N/A	N/A	N/A
Operational car park		Disturbance due to construction plant causing direct contact, dusts, vapours.		Indoor Dust ingestion	Yes	As above	Potential risk	TBA	TBA
Made Ground associated with former access road				Skin Contact with Soils	Yes	As above	Potential risk	TBA	TBA
Off-site Sources				Skin Contact with Dust	Yes	As above	Potential risk	TBA	TBA
Residential housing	Asbestos / Metals As, Be, Cd, Cu, Cr (VI), Cr (III) Hg, Ni, Se, Va, Zn, Boron, TPH /PAH.	Direct Contact with occupants of the proposed development	Occupants of the development / building fabric	Inhalation of Outdoor Dust	Yes	As above	Potential risk	TBA	TBA
Operational retail park				Inhalation of Outdoor Vapours	Yes	As above	Potential risk	TBA	TBA
Electrical sub stations		Inhalation of fibres / vapours / gases by occupants of proposed development	Adjacent residents during construction	Inhalation of Indoor Vapours	Yes	As above	Potential risk	TBA	TBA
Bus station				Inhalation of ground gas	No	Lower Probability Area	Negligible	None	Negligible
Development of Kirkby town centre				Inhalation of radon gas	Yes	As above	Potential risk	TBA	TBA
				Ingestion via permeated water supply pipework	Yes	As above	Potential risk	TBA	TBA
		Permeation of water supply pipework	Kirkby Brook	Direct contact with Secondary (A) Aquifer in Superficial Deposits	Yes	As above	Potential risk	TBA	TBA
		Leachate	Secondary A Aquifer & Principal Aquifer	In-direct contact with Principal Aquifer in bedrock	Yes	As above	Potential risk	TBA	TBA

Table 1: Outline Conceptual Site Model

Direct contact with subsurface soil and/or groundwater during redevelopment works are not assessed as part of the CSM. It is considered that risks to workers will be managed as part of any the redevelopment works at the site through the application of health and safety procedures, where required.

3 SITE WALKOVER

The opportunity was taken to inspect the site of the proposed Lidl store site on 12th March 2025 by Krysia Szybut of Remada Ltd during the intrusive works, as recorded in the photographs below. There were no visual or olfactory indicators of contamination.



Photo 1: A view of the site towards the south-west with Telegraph Way in the distance.



Photo 2: A view towards the north-east with areas of soft landscaping and the car park associated with Kirkby Retail Park to the right.



Photo 3: The western portion of the site showing the site access with two shallow bunds.



Photo 4: A view westwards, showing the car park, soft landscaping and footpath towards Kirkby Retail Park.



4 ENVIRONMENTAL & GEOTECHNICAL INVESTIGATION METHODOLOGY

4.1 Investigation Strategy

In accordance with Lidl Ground Investigation standard 05.2023, five (5 No). window sample holes were required beneath the proposed store footprint to a depth of 7m or refusal, and four (4 No) beneath the delivery bay, HGV access and car park. Four (4 No) CBR tests were conducted in the proposed car park. Four (4 No) ground gas monitoring visits were scheduled for the site to provide the minimum required by C665.

The investigation comprised the drilling of nine (9 No) window sample holes (WS01 – WS09 and four (4 No) CBR tests at locations indicated on **Figure 2** between 12th March and 8th April 2025.

Exploratory hole locations were selected to enable an investigation of ground conditions beneath the proposed retail store and delivery bay area. The site comprises a car park and it was therefore anticipated that there would be a limited thickness of Made Ground at the site.

All exploratory holes were logged by a suitably qualified Geo-environmental Engineer in general accordance with the recommendations of BS5930:2015+A1:2020. Detailed descriptions, together with relevant comments, are given in the **Exploratory Hole Logs**.

The weather conditions at the site during the fieldwork period were generally warm and dry, with no standing water nor slippery ground conditions being noted.

4.2 Intrusive Investigation

Five of the window samples were advanced to a target depth of 7m and four to a target depth of 5m. However, as bedrock was encountered at relatively shallow depths all window samples holes were drilled to refusal which was between 3.00 and 4.80m bgl. Combined Groundwater and Ground Gas monitoring standpipes were installed in WS01, WS03 and WS04.

4.3 In-Situ Testing

4.3.1 Standard Penetration Tests

Standard Penetration Tests (SPTs) in the window samples were carried out at 1.0m intervals as recorded on the borehole logs to assess the relative density and consistency of soils.

SPTs were conducted in accordance with BS EN ISO 22476-3 and the recorded SPT N-values are summarised on the borehole logs.

The SPT N-values have been corrected based on the Energy Ratio of 88% for the SPT hammer on the window sampling rig. The SPT Hammer Energy Test Report, undertaken in accordance with BS EN ISO 22476-3:2005 is presented in **Appendix A**.

4.3.2 Hand Shear Vane

Hand shear vane tests were undertaken using an Impact SL810 and in general accordance with the manufacturer's instructions on selected samples of cohesive soils.

4.4 Soil Sampling

4.4.1 Environmental

Made Ground and natural soils were selected by visual and olfactory means for subsequent analysis. Samples for chemical laboratory testing purposes were collected in amber glass jars, amber glass vials and plastic tubs and retained in a cool box for transport to the laboratory.



4.4.2 Geotechnical

Geotechnical samples were collected at depths indicated on the window sample logs with samples retrieved from within a sleeve line. The disturbed samples were placed in sealed and correctly labelled plastic tubs or bags as appropriate. All geotechnical samples were dispatched to the laboratory for testing with a completed chain of custody.

4.5 Gas & Groundwater

4.5.1 Installations

Combined ground gas and groundwater monitoring standpipes were installed in selected wells with a 50mm diameter slotted HDPE pipe and packed with gravel surround as recorded on the exploratory hole logs. Wells were completed with 0.5 – 1.0m of plain HDPE pipe and bentonite seal, with a gas bung and tap being installed at the top of the pipe.

4.5.2 Monitoring

Ground gas monitoring was undertaken using a GasData GFM436 gas analyser for the parameters reported below. Groundwater levels were measured with a GeoSense OWP30 oil water interface probe.

Permanent ground gas monitoring involved the measurement of the following in the prescribed order:

- Pressure difference between the monitoring well and the atmosphere.
- Peak and steady flow rates of gas into or out of the monitoring well.
- Peak and steady concentrations of carbon dioxide, methane, oxygen (minimum and steady recorded), carbon monoxide, hydrogen sulphide; and
- Depth to groundwater.

Four ground gas monitoring visits were undertaken as a minimum required for a commercial development in accordance with CIRIA C665. Ground gas concentrations were recorded on 18th and 24th March, and 8th and 16th April 2025 at WS01, WS03 and WS04 and the results are presented in **Table 2**. The corresponding Calibration Certificates for the GFM 436 gas analyser is presented in **Appendix C**.

4.6 Quality Assurance and Quality Control

All samples were submitted to a United Kingdom Accredited Laboratory (UKAS) under a completed chain of custody. The laboratory carried out its own QA/QC programme to ensure that the quality of the analytical data conformed to the appropriate test method protocols.

4.7 Laboratory Analysis & Testing

4.7.1 Chemical Analysis – Soil

Five (5 No) soil samples were scheduled for the analysis of asbestos, arsenic, barium, beryllium, cadmium, chromium (III & VI), copper, mercury, nickel, lead, selenium, zinc, fraction of organic carbon, Total Petroleum Hydrocarbons (TPHCWG), Polyaromatic Hydrocarbons (PAH), BTEX compounds (benzene, toluene, ethylbenzene and xylene) and phenols.

In addition, two (2 No.) samples of bituminous surfacing were analysed for PAH compounds.

The results of laboratory chemical analyses are presented at **Appendix D**.



4.7.2 Geotechnical

Samples recovered from the boreholes were submitted to an accredited laboratory for the following tests in general accordance with BS1377:1990:

- 7 No Natural Moisture Contents
- 7 No Plasticity Indices
- 1 No Particle Size Distribution tests
- 1 No Sedimentation test; and
- 4 No BRE SD1 suites

The results of the geotechnical testing are presented at **Appendix E**.



5 GEOTECHNICAL & ENVIRONMENTAL INVESTIGATION FINDINGS

5.1 Ground Conditions

A brief description of the published geology is provided together with a summary of the ground conditions encountered during the intrusive investigation. Exploratory logs are presented at the end of the report.

5.1.1 Published Geology

The geological mapping indicates that superficial deposits directly beneath the site comprise the Shirdley Hill Sandstone Formation which is described as *'moderately to well-sorted, fine-grained sand with peat layers in the lower part. Sand grains are dominated by rounded to sub-rounded quartz grains. The formation is divisible into an upper "white" sand and a lower "brown" sand that is olive grey and brown'*.

Bedrock geology is indicated to comprise the Chester Formation, a sandstone from the Triassic Period which is described as *'conglomerates and reddish brown, cross-bedded, pebbly sandstones with subordinate beds of red-brown mudstone. The conglomerates have a reddish brown sandy matrix and consist mainly of pebbles of brown or purple quartzite, with quartz conglomerate and vein quartz'*.

The Shirdley Hill Sandstone Formation is classified as a Secondary A Aquifer and the Chester Formation is designated as a Principal Aquifer. The site is located within a Source Protection Zone III.

5.1.2 Made Ground

Made Ground was encountered within all ten (10 No.) exploratory hole locations, ranging in thickness between 0.4m (WS8) and 1.3m (WS4), where proven.

Asphalt surfacing was encountered within the three boreholes located within the car park, ranging in thickness between 0.09m (WS6) and 0.2m (WS2). Elsewhere, the made ground surfacing typically comprised grass overlying dark brown, locally gravelly and clayey sand. The associated gravel typically comprised fragments of concrete, brick, sandstone, quartzite, chalk, igneous rock, slate, coal and asphalt with rare sandstone cobbles.

5.1.3 Superficial Deposits

According to the published geology superficial deposits of Shirdley Hill Sandstone Formation is present beneath the site and all exploratory holes encountered a material that has been interpreted as superficial in origin. The material was generally described as loose to medium dense brown locally slightly gravelly SAND where the gravel comprised angular to subangular sandstone. However, WS01 soft fibrous PEAT was encountered between 1.8 and 2.0m bgl.

Soft or loose ground was encountered in six of exploratory hole locations as summarised below:

- WS01 - Loose SAND between 1.0 and 1.8m bgl;
- WS01 - Soft PEAT between 1.8 and 2.0m bgl;
- WS01 - Loose gravelly SAND between 2.0 and 2.3m bgl;
- WS03 - Loose SAND between 1.0 and 1.6m bgl;
- WS04 - Loose slightly gravelly SAND between 1.3 and 2.0m bgl;
- WS05A - Loose SAND between 1.0 and 1.2m bgl;
- WS08 - Very loose silty SAND from 2.0m, very dense at 3.0m bgl;

- WS09 - Very loose SAND between 0.6 and 1.7m bgl; and
- WS09 - Soft sandy CLAY between 1.7 and 2.0m bgl.

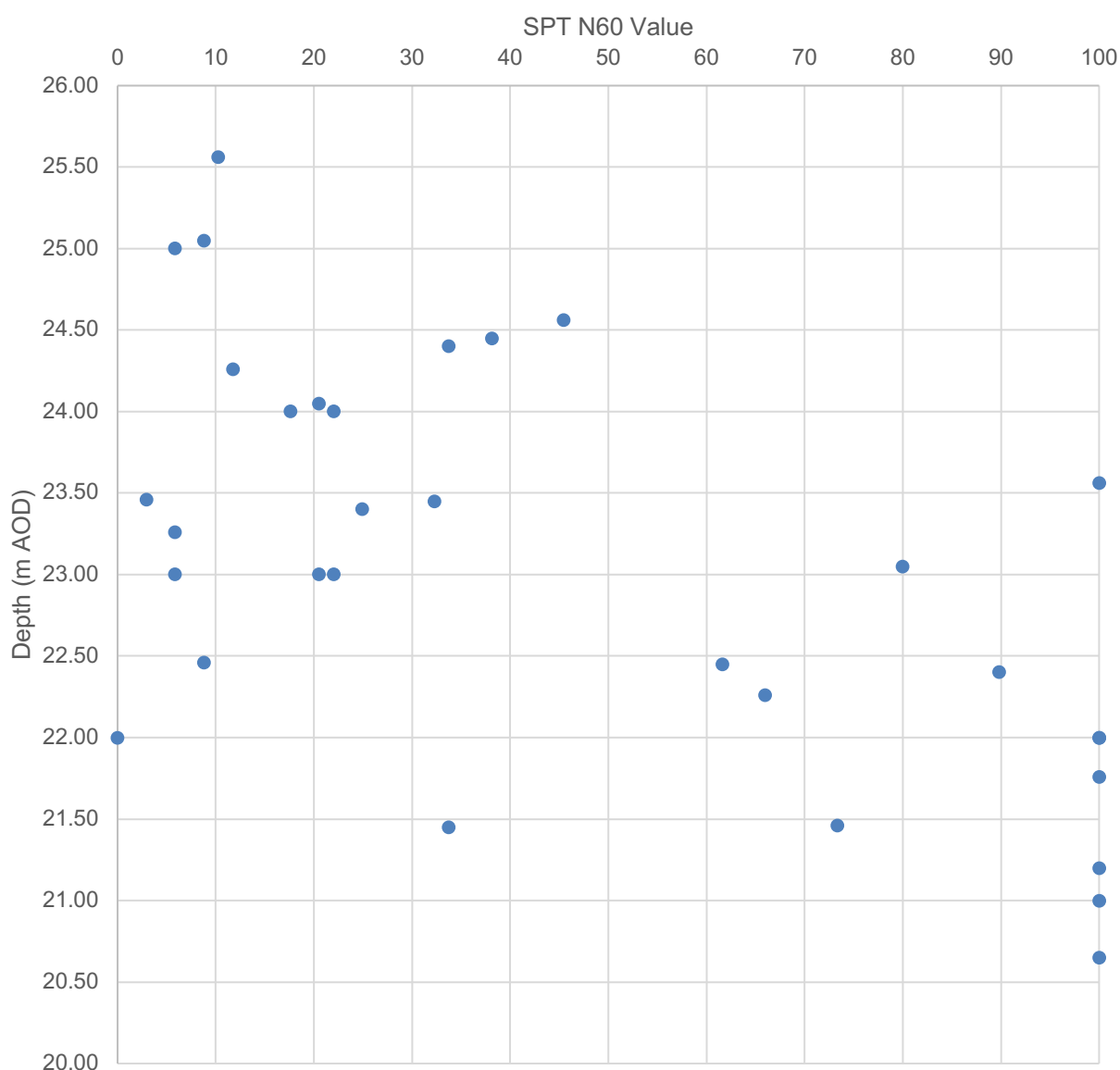
5.1.4 Bedrock

Bedrock was encountered in all of the exploratory holes. In general, near surface the bedrock had become completely weathered to either a red brown dense SAND, or a firm to very stiff red brown locally silty locally sandy CLAY with localised mudstone lithorelicts. Gravel within the bedrock comprised sandstone and mudstone.

5.2 In-situ Testing

5.2.1 Standard Penetration Tests (SPTs)

In-situ SPTs were undertaken to assist with the interpretation of strata encountered. The results of corrected N-values versus depth are plotted in the graph below. Where the N60 value >100, the plotted value has been capped at 100:



Graph 1: Plot of Corrected SPT N-Values Versus Depth

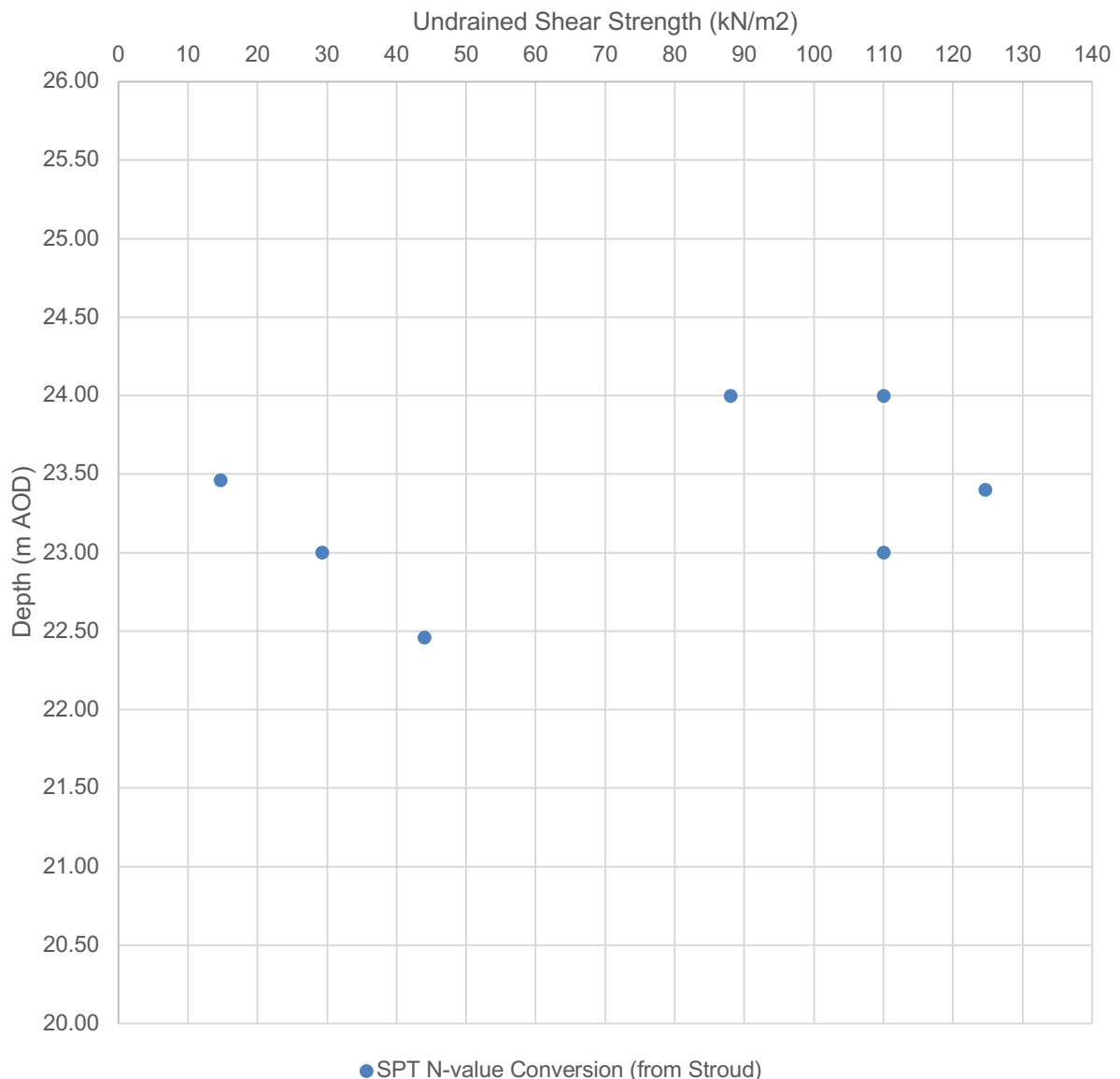


Undrained shear strengths have been estimated from SPT N values using the relationship developed by Stroud (*The standard penetration test in incentive clays and soft rocks*) and summarised in Tomlinson where:

$$\text{Mass shear strength} = f_1 \times N$$

Where f_1 is based on the plasticity index.

A Plasticity Index of 24% has been assumed (based on geotechnical laboratory testing) which equates to an f_1 factor of 5.0.



Graph 2: Plot of Mass Shear Strength Versus Depth (m AOD)

5.2.2 CBR Tests

The results of the four DCP tests within the proposed car park area produced values of 2.2% and >100% within the upper 500mm. The results are presented in **Appendix B**.



5.3 Soil Observations

Made Ground was recovered at all locations as a heterogeneous granular material containing a variety of man-made materials including brick, concrete, tarmac and tile.

WS05 encountered a hard layer at depth and did not fully penetrate the Made Ground at 0.9m bgl.

There were no visible or olfactory indicators of contamination within the sampled soils.

5.4 Groundwater Observations

Groundwater seepage was noted in WS02 at 3.0m bgl. Groundwater levels were also recorded in the monitoring wells installed in the three window sample holes at depths of between 1.22 and 2.03m bgl.

5.5 Chemical Analysis

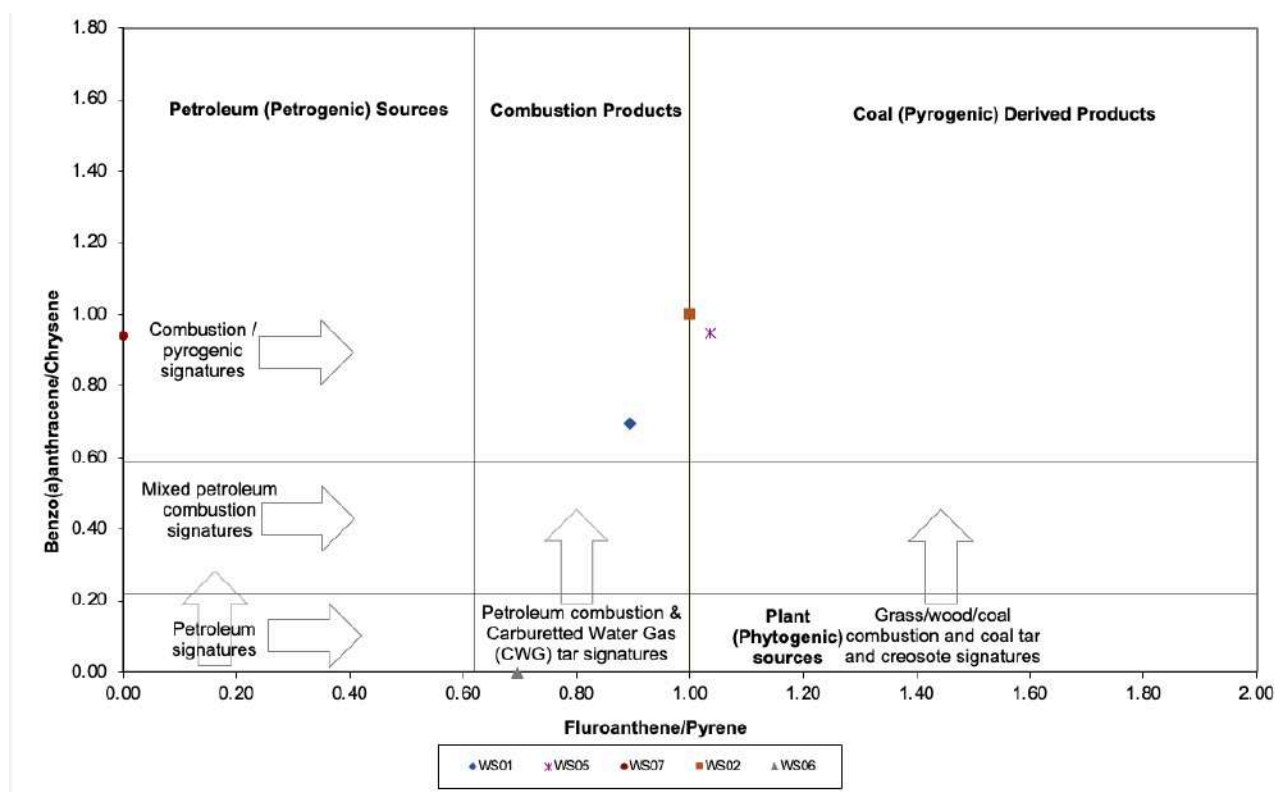
Results of the soil chemical analysis are presented in **Table 3** and summarised as follows.

The average FOC and pH were 0.0181 and 9.77 respectively. Asbestos was not detected in the samples analysed. Detectable concentrations of metals were identified, although these are generally within the range that would typically be expected for Made Ground.

Concentrations of TPH were detected above method detection limit (MDL) in three of the samples analysed (from WS05, WS06 and WS07). The hydrocarbons were generally heavy end hydrocarbons within the range C16 to C35 carbon range. However, hydrocarbons in the C10 to C16 carbon range were also encountered. Samples were taken from Made Ground and there was no visual or olfactory evidence of contamination.

Concentrations of PAHs were generally low (<10 mg/kg) except for a sample of Made Ground from WS05 which had total concentration 81.3 mg/kg.

In addition, the PAH concentrations have been plotted on a double ratio plot to provide an indication of the likely source of the PAHs. All of the samples that had detections of the four PAHs used have been plotted and all are indicated to be combustion related PAHs which could be associated with urban background sources.



Graph 3: PAH Double Ratio Plot

Two samples of car park surfacing material (asphalt) were scheduled for the analysis of PAH 17 and the results indicate that coal tar is unlikely to be present.

5.6 Geotechnical Testing

Results of the geotechnical testing are summarised below.

5.6.1 Plasticity Testing

Plasticity testing was undertaken on seven (7 No.) samples of cohesive soils recovered from the window sample boreholes, with the results ranging between 19 and 37%. These indicate the soils to be of both low plasticity (CL) and intermediate (CI) plasticity, and low to medium volume change potential. The samples from WS01 at 1.2m and WS08 at 1.5m recorded the material to be Non-Plastic (NP).

Location	Depth (m)	Plasticity Index (%)	Passing .425mm (%)	Modified Plasticity Index	Plasticity	Volume Change Potential
WS02	1.1	37	100	37.0	Intermediate Plasticity	Medium
WS03	1.9	20	97	19.4	Low Plasticity	Low
WS04	3.8	20	100	20.0	Intermediate Plasticity	Medium
WS5A	1.6	19	70	13.3	Low Plasticity	Low
WS09	1.9	23	100	23.0	Intermediate Plasticity	Medium

Table 4: Plasticity Indices and Volume Change Potentials of the Cohesive Strata

5.6.2 Particle Size Distribution (PSD) Analysis

The PSD tests revealed the following:



- Natural deposits in WS06 at 1.0 – 2.0m comprised brown gravelly, silty, clayey fine to coarse SAND.

5.6.3 BRE SD1 Analysis

The water-soluble sulphate contents varied from 10.6 to 91.1 mg/l in the four soil samples analysed with pH varying from 8.0 to 8.7. The total sulphur content varied from <0.005 to 0.044% and acid soluble sulphate varied from 0.009 to 0.029%.

5.7 Ground Gas Monitoring Results

The results of the ground gas and groundwater monitoring programme are summarised below:

- Methane concentrations in all monitoring wells was recorded at less than the instrument detection limit;
- A maximum steady state concentration of Carbon Dioxide was recorded as 1.7% v/v in WS01 on 16th April 2025. Detectable concentrations of carbon dioxide were recorded in all the monitoring wells;
- A minimum steady stated concentration of Oxygen was recorded 14.1 % v/v in WS01 on 18th March 2025;
- Ground gas flow rates were recorded at 0.0 litres per hour (l/hr) in all monitoring wells;
- Groundwater was encountered within all of the standpipes for at least one visit of the monitoring programme between depths of 1.22m and 2.03m bgl; and,
- Atmospheric pressure at the time of sampling varied between a high of 1026 millibar (mbar) on 8th April 2025 and a low of 990 mbar on 16th April 2025. The monitoring visits were undertaken during periods of rising, steady and falling pressure trends over the preceding forty-eight hours.



6 GENERIC QUANTITATIVE RISK ASSESSMENT

6.1 Human Health Risk Assessment

In order to provide an up to date assessment of the risks to human health, Remada has adopted the most recent Generic Assessment Criteria (GAC) published by LQM/CIEH (S4ULs) and CL:AIRE/EIC/AGS for the assessment of potential risks to human health. The derivation of GAC, methodology, input parameters and technical guidance (CLEA) may be obtained upon request.

The proposed site layout retail store and delivery area is presented in **Figure 3**.

Default parameters have been adopted for sandy loam of pH 7 and commercial land use. FOC ranged from 0.0056 to 0.033 giving a Soil Organic Matter (SOM) content range of between 0.01 to 0.057% with an average result of 0.03%. In order to present a conservative assessment, the SOM content of 1% has been adopted for the assessment.

The depth to potential sources of contamination for indoor air pathways has been assumed to be 0.5m below building foundation level. The source has been conservatively assumed to be at ground level for outdoor air and direct contact pathways.

For commercial land use the CLEA version 1.06 critical receptor is conservatively modelled as a female working adult with an exposure duration of 49 years. In accordance with the default parameters, it was assumed that employees spend most of their time indoors and that 80% of outdoor area is covered by hardstanding. As such, the potential exposure pathways have been assumed to be:

- Direct Soil and Indoor Dust Ingestion;
- Skin contact with soils and dusts;
- Inhalation of indoor and outdoor dusts and vapours.

Where GAC values for individual TPH fractions are not exceeded, the potential additive effect has been assessed by calculating overall TPH hazard index for each sample.

6.2 Comparison of Soil Analysis Results with Human Health GAC

A comparison of soil chemical analysis with GAC is presented as **Table 3**.

TPH, PAH & BTEX

None of the analytes tested were detected at concentrations that exceeded the human health GAC protective of on-site workers.

Metals & Inorganics Excluding Asbestos

None of the analytes tested were detected at concentrations that exceeded the human health GAC protective of on-site workers.

Asbestos

There was no asbestos detected in the samples selected for analysis.

6.3 Controlled Waters Risk Assessment

6.3.1 Sensitivity – Groundwater

The Shirdley Hill Sandstone Formation is classified as a Secondary A aquifer and the Chester Formation is designated, as a Principal Aquifer. The site is located within a Source Protection Zone III.



6.3.2 Sensitivity – Surface Waters

The nearest surface water feature lies at greater than 250m from the site.

6.3.4 Risk Assessment

The results of the soil chemical analysis undertaken has identified that concentrations of metals and inorganic contaminants are within the range that would be expected for 'typical' made ground. Detectable concentrations of TPH and PAHs were encountered in some samples. However, the contaminants identified are of low solubility and mobility and as such are unlikely to present a risk to groundwater beneath the site.

Post-development, the site will continue to be predominantly covered by a retail building and areas of hardstanding. Consequently, the risk of leaching of contaminants as a result of infiltration of groundwater is limited. Therefore, the risk to controlled waters from contaminants within the made ground at the site is considered to be low and does not warrant further consideration at this stage.

6.4 Ground Gas Assessment

In order to understand the gassing regime at the site, a Characteristic Situation (as defined in CIRIA C665 and BS8576:2013) is determined for the site. CIRIA C665 and BS8576 provides definitions for each Characteristic Situation based on Gas Screening Values (GSV) which are calculated as follows:

- $GSV = \text{Gas Concentration (\% v/v)} \times \text{Measured Borehole Flow Rate (l/hr)}$

BS8576 makes a distinction between the GSV and the Hazardous Gas Flow Rate (Q_{hg}) which is also calculated using the above calculation. BS8576 states that Q_{hg} is calculated for each individual borehole for each monitoring visit, whereas the GSV is taken as the representative value for the site or site zone.

As a worst case assessment, the GSV for the site is therefore taken as the maximum steady-state carbon dioxide/methane concentration recorded in the boreholes which is multiplied by the maximum flow rate recorded during the same monitoring event.

- Methane GSV = $0.1\% \times 0.1 \text{ l/hr} = 0.0001 \text{ l/hr}$ (methane concentration taken as equal to the instrument detection limit of 0.1%).
- Carbon Dioxide GSV = $1.7\% \times 0.1 \text{ l/hr} = 0.017 \text{ l/hr}$

The calculated GSV of less than 0.07 l/hr for methane and carbon dioxide places the site into Characteristic Situation 1. BS 8485:2015+A1:2019 states that for Characteristic Situation 1 the methane concentration would typically be less than 1% and carbon dioxide less than 5% and that if concentrations are above these limits then consideration should be given to placing the site into Characteristic Situation 2. As the concentrations of methane and carbon dioxide were both within these typical limits it is considered that the Characteristic Situation 1 classification is appropriate for the site. Therefore, gas protection measures are not deemed necessary for the proposed development.

6.5 Revised Conceptual Site Model

A revised Conceptual Site Model is presented as **Table 5** below.



6.6 Waste Classification & Waste Acceptance

Waste classification has been undertaken following guidance set out in WM3 EA Technical Guidance 'Guidance on the classification and assessment of waste', 1st Edition, Version 1.2GB, October 2021. The results of this assessment determine the appropriate List of Waste (LoW) Code and whether the waste should be classified as hazardous or non-hazardous. Classification is undertaken using the results of solid (total) analyses and not on the results of the WAC analyses.

Once the waste has been classified as either hazardous or non-hazardous then the WAC testing determines if the waste meets the requirements for disposal in the required landfill. Therefore, if the waste is classified as hazardous waste, then the waste would also need to meet the hazardous waste WAC requirements to be disposed of in a hazardous waste landfill. However, if the final destination of the waste is not to landfill then WAC analysis is not required.

The WAC testing also allows for a distinction to be made between inert and non-hazardous waste. Waste that does not fall within the hazardous waste category and meets the requirements for disposal in an inert landfill can therefore be disposed of in an inert landfill. However, waste that does not meet the requirements for inert landfill will need to be disposed of in a non-hazardous landfill. In certain circumstances hazardous waste can be disposed of in a designated cell within a non-hazardous landfill. In this case the waste would need to meet more stringent leachate requirements for stable non-reactive hazardous waste.

6.6.1 Waste Classification

The results of the assessment found that contaminant concentrations within the made ground were generally low and would classify it as non-hazardous with LoW Code 17 05 04 (soils and stones other than those mentioned in 17 05 03).

The results of chemical analysis on two samples of asphalt found that the concentrations of PAHs were low. Therefore, the bituminous surfacing represented by these samples would be classified as non-hazardous waste and assigned the List of Wastes code 17 03 02 for bituminous mixtures other than those mentioned in 17 03 01.

6.6.2 Waste Acceptance

Waste Acceptance Criteria (WAC) analysis was undertaken on three samples of Made Ground. The assessment of both samples found that two samples met the requirements for landfill disposal as non-hazardous and one as sample met the requirements for landfill disposal as Inert.

6.7 Health & Safety Considerations

To ensure direct exposure of construction workers involved in the site redevelopment to any impacted contaminated shallow soils is minimised, the guidance stated in HSG 66 "Protection of Workers and the General Public During Redevelopment of Contaminated Land" should be followed.



Potential Source Areas	Potential Contaminant of Concern	Pathways	Potential Receptor	Exposure Route (Human unless otherwise stated)	Potential Identified Linkage (unmitigated)	Findings of Ground investigation	Risk (Un-mitigated)	Proposed Remediation (Mitigation) Measures	Residual Risk Estimation
On-site Sources									
Operational car park		Disturbance due to construction plant causing direct contact, dusts, vapours.		Direct Soil Ingestion	No	N/A.	N/A	Hardstanding to cover retail site minimising direct contact.	N/A
Made Ground associated with former access road				Indoor Dust ingestion	Yes	No exceedance of GAC.	Very Low	As above.	N/A
				Skin Contact with Soils	Yes	<GAC	Very Low	As above	N/A
				Skin Contact with Dust	Yes	<GAC	Very Low	As above	N/A
Off-site Sources				Inhalation of Outdoor Dust	Yes	<GAC	Very Low	As above	N/A
Residential housing				Inhalation of Outdoor Vapours	Yes	<GAC	Very Low	As above	N/A
Operational retail park				Inhalation of Indoor Vapours	Yes	<GAC	Very Low	As above	N/A
Electrical sub stations				Inhalation of ground gas	Yes	CS1	Negligible	None	N/A
Bus station				Inhalation of radon gas	No	Lower Probability Radon Area	Negligible	N/A	N/A
Development of Kirkby town centre				Ingestion via permeated water supply pipework	Yes	Concentrations within typical range of made ground (< GAC)	Negligible	N/A	N/A
				Direct contact with Secondary (A) Aquifer in Superficial Deposits	Yes	<GAC	Negligible	Site to be predominately hardstanding	N/A
				In-direct contact with Principal Aquifer in bedrock	Yes	<GAC	Negligible	As above	N/A

Table 5: Refined Conceptual Site Model

Direct contact with subsurface soil and/or groundwater during redevelopment works are not assessed as part of the CSM. It is considered that risks to workers will be managed as part of any the redevelopment works at the site through the application of health and safety procedures, where required.



7 GEOTECHNICAL SITE ASSESSMENT

7.1 Geotechnical Considerations

An indicative site layout is indicated in **Figure 3** with the proposed Lidl store zone being in the east of the site, in the location of existing flat landscape and partly within the existing car park park. It is envisaged that proposed finished floor levels and car park levels will be similar to the finished road level of the existing car park. The proposed layout indicates that the customer car park is not within the existing site boundary and that land between the proposed store footprint and Hall Lane will be a service yard for HGV access to the delivery bay.

Historical maps record that the site was developed as a car park and the ground investigation revealed Made Ground to a maximum depth of 1.3m in the south of the proposed store footprint. Dependent upon location both CLAY and SAND were observed directly beneath the Made Ground. Within the south-east of the proposed store footprint at WS05A SAND (N=7) was observed overlying CLAY (N = 7) to 1.7m bgl overlying dense SAND (N = 32). At WS4 in the south-west corner of the proposed store footprint SAND was present from 1.3 to 2.0m overlying stiff CLAY (N = 15). However, CLAY was present directly beneath the Made Ground at WS06 just to the west of the proposed footprint. SAND was present at WS02 in west of the proposed footprint to a depth of 2m overlying stiff CLAY (N= 15), whilst firm CLAY was present in the east to 1m bgl overlying loose SAND (N = 6) to 1.6m bgl overlying firm CLAY (N = 14). Further to the west, beneath the service yard, loose SAND (N = 2) was found to overlie soft CLAY (N = 6). At WS01 beneath the proposed warehouse in the north of the footprint loose SAND (N=8) was underlain PEAT from 1.8 to 2.0m bgl overlying loose SAND (N=4). SPT refusals (N = 50) were recorded at between 2.9 and 4.0m in the proposed store footprint.

Resting groundwater levels were recorded at between 1.22 and 2.03m bgl.

Details of the proposed permanent and variable design loads (actions) are not currently known although an indicative column load of 400kN has been provided.

7.2 Design Approach

Due to the presence of PEAT in the north of the proposed store footprint and loose SAND, soft and firm CLAY dependent upon on location there is a potential for unacceptable amount of differential settlement. Consequently, the bearing capacity of the made ground, loose SAND and soft cohesive deposits should be increased by vibro-ground improvement to achieve the required bearing capacity. It is recommended that specialist advice is sought from a ground improvement contractor with regard to the suitability of this technique due presence of PEAT. The bearing capacity required for either a raft, pad foundations and floor slab should be specified by the engineer and proven by in-situ plate bearing tests to prove the performance of the improved ground.

7.3 Shrinkage and Swelling

All samples of CLAY were reported as being LOW and INTERMEDIATE plasticity with between 70% and 100% passing a 0.425mm sieve. The modified plasticity index equates at Low to Medium Volume Change Potential.

The minimum foundation depths outside the zone of tree influence as specified by the NHBC have been reproduced in **Table 6** below, however:

Volume Change Potential	A) Minimum foundation depth (m) (allowing for restricted new planting)	B) Minimum foundation depth (m) (where planting is outside the zone of influence of trees)
High	1.50	1.0
Medium	1.25	0.9
Low	0.9	0.75

Table 6: NHBC 2023 Table 4 Minimum Foundation Depths

7.4 Floor Slab

If vibro ground improvement is adopted, the required bearing capacity should be specified for either a ground bearing floor slab or raft.

7.5 Imported Fill

All imported fill material should comply with an earthworks specification to be prepared by the Engineer and not contain concentrations of contaminants at greater than the Generic Assessment Criteria (GAC) presented in **Table 3**.

7.6 Excavations and Temporary Works

Due to the presence of Made Ground, loose SAND and PEAT temporary excavations are likely to remain stable even in the short term without support or without being battered back to a safe slope gradient. A detailed inspection of the side slopes should be made during excavation and a risk assessment carried out to fully assess the support measures required.

7.7 HGV Delivery Area

CBR values estimated from the DCP tests indicated that, near surface the CBR values were variable being in existing landscape and/or Made Ground. CBR 4 at the location of WSO6 recorded at values on not less than 20% in the SAND that underlies the Made Ground.

Poorly compacted made ground backfill resulting from the demolition works should be excavated, processed as necessary to produce a 6F2 material and replaced in compacted layers in accordance with an engineering specification.

7.8 Protection of Buried Concrete

In accordance with BRE SD1 for buried concrete in a brownfield site with mobile groundwater, analyse of selected samples for water soluble sulphate returned values of up to 0.91 g/l and pH >8.0. A total potential sulphate value of 0.13% was also calculated from the total sulphur results. Therefore, a Design Sulphate Class DS-1 is considered appropriate for buried concrete and an ACEC Class of AC-1 is considered appropriate for the location.

7.9 General Construction Advice

All formations should be cleaned, and subsequently inspected, by a suitably qualified engineer prior to placing concrete. Should any soft, compressible or otherwise unsuitable materials be encountered they should be removed and replaced by blinding concrete.

Foundation concrete, or alternatively, a blinding layer of concrete, should be placed immediately after excavation and inspection in order to protect the formation against softening and disturbance.

Generally, all formations should be placed wholly within the same material type, unless specific



geotechnical inspection and assessment have been undertaken.

Where applicable ground beneath the proposed building footprint and potentially car parking may require to be stripped to reveal localised areas of made ground and structures. Excavations should be backfilled with suitably re-compacted materials to achieve formation level.

During foundation excavation works arisings should be constantly monitored for the presence of contamination.



8 CONCLUSIONS & RECOMMENDATIONS

8.1 Conclusions

The following conclusions have been made based on the findings of this investigation.

8.1.1 Phase 2 Site Investigation

Historical maps record that the site was first developed as a car park. Geological mapping that superficial deposits directly beneath the site comprise the Shirdley Hill Sandstone Formation described as '*moderately to well-sorted, fine-grained sand with peat layers in the lower part*'. Bedrock geology is indicated to be sandstone of the Chester Formation.

The Shirdley Hill Sandstone Formation is classified as a Secondary A aquifer and the Chester Formation is designated, as a Principal Aquifer. The site is located within a Source Protection Zone III.

The ground investigation revealed Made Ground to a maximum depth of 1.3m in the south of the proposed store footprint. Dependent upon location both CLAY and SAND were observed directly beneath the Made Ground.

Dependent upon location both CLAY and SAND were observed directly beneath the Made Ground. Within the south-east of the proposed store footprint at WS05A SAND (N=7) was observed overlying CLAY (N = 7) to 1.7m bgl overlying dense SAND (N = 32). At WS4 in the south-west corner of the proposed store footprint SAND was present from 1.3 to 2.0m overlying stiff CLAY (N = 15). However, CLAY was present directly beneath the Made Ground at WS06 just to the west of the proposed footprint. SAND was present at WS02 in west of the proposed footprint to a depth of 2m overlying stiff CLAY (N= 15), whilst firm CLAY was present in the east to 1m bgl overlying loose SAND (N = 6) to 1.6m bgl overlying firm CLAY (N = 14). Further to the west, beneath the service yard, loose SAND (N = 2) was found to overlie soft CLAY (N = 6). At WS01 beneath the proposed warehouse in the north of the footprint loose SAND (N=8) was underlain PEAT from 1.8 to 2.0m bgl overlying loose SAND (N=4). SPT refusals (N = 50) were recorded at between 2.9 and 4.0m in the proposed store footprint.

Resting groundwater levels were recorded at between 1.22 and 2.03m bgl.

8.1.2 Human Health Risk Assessment

The results of soil chemical analysis were compared to Human Health Generic Assessment Criteria for commercial land use. None of the analytes tested were detected at concentrations that exceeded the human health GAC protective of on-site workers.

8.1.3 Water Resources Risk Assessment

The results of the soil chemical analysis undertaken has identified that concentrations of metals and inorganic contaminants are within the range of typical made ground. Detectable concentrations of TPH and PAHs were encountered in some samples. However, the contaminants identified are of low solubility and mobility and as such are unlikely to present a risk to groundwater beneath the site. In addition, it should be noted that the site will be predominantly covered with the building and areas of hardstanding. Therefore, the risk of leaching of contaminants as a result of infiltration of groundwater is likely to be limited. Therefore, the risk to groundwater from contaminants within the made ground at the site is considered to be low and does not warrant further consideration.



8.1.4 Waste Classification

In general, the results of the chemical analysis indicate that the material would be classified as non-hazardous waste. WAC testing is not required for disposal of non-hazardous waste to landfill. The results of chemical analysis on two samples of asphalt found that the concentrations of PAHs were low. Therefore, the bituminous surfacing represented by this sample would be classified as non-hazardous waste and assigned the List of Wastes code 17 03 02 for bituminous mixtures other than those mentioned in 17 03 01.

8.2 Recommendations

Due to the presence of PEAT in the north of the proposed store footprint and loose SAND, soft and firm CLAY dependent upon on location there is a potential for unacceptable amount of differential settlement. Consequently, the bearing capacity of the made ground, loose SAND and soft cohesive deposits should be increased by vibro-ground improvement to achieve the required bearing capacity. It is recommended that specialist advice is sought from a ground improvement contractor with regard to the suitability of this technique due presence of PEAT. The bearing capacity required for either a raft, pad foundations and floor slab should be specified by the engineer and proven by in-situ plate bearing tests to prove the performance of the improved ground.

A Design Sulphate Class DS-1 is considered appropriate for buried concrete and an ACEC Class of AC-1 is considered appropriate for the location.

Due to the presence of Made Ground, loose SAND and PEAT temporary excavations are likely to remain stable even in the short term without support or without being battered back to a safe slope gradient. A detailed inspection of the side slopes should be made during excavation and a risk assessment carried out to fully assess the support measures required.

8.3 Ground Gas

The results of four rounds of gas monitoring visits placed the site into Characteristic Situation 1 and therefore ground gas protection measures will not be required within the proposed buildings.

The site is located in a Lower Probability Radon Area as less than 1% of properties are above the Action Level but no radon protective measures are necessary.



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STUDY LIMITATIONS

IMPORTANT. This section should be read before reliance is placed on any of the information, opinions, advice, recommendations or conclusions contained in this report.

1. This report has been prepared by Remada, Ltd with all reasonable skill, care and diligence within the terms of the Appointment and with the resources and manpower agreed with (the 'Client'). Remada does not accept responsibility for any matters outside the agreed scope.

2. This report has been prepared for the sole benefit of the Client unless agreed otherwise in writing.

3. Unless stated otherwise, no consultations with authorities or funders or other interested third parties have been carried out. Remada is unable to give categorical assurance that the findings will be accepted by these third parties as such bodies may have published, more stringent objectives. Further work may be required by these parties.

4. All work carried out in preparing this report has used, and is based on, Remada's professional knowledge and understanding of current relevant legislation. Changes in legislation or regulatory guidance may cause the opinion or advice contained in this report to become inappropriate or incorrect. In giving opinions and advice pending changes in legislation, of which Remada is aware, have been considered. Following delivery of the report Remada has no obligation to advise the Client or any other party of such changes or their repercussions.

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6. Whilst this report and the opinions made are to the best of Remada's belief, Remada cannot guarantee the accuracy or completeness of any information provided by third parties.

7. This report has been prepared based on the information reasonably available during the project programme. All information relevant to the scope may not have received.

8. This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of changes in the condition of the site since the time of the investigation.

9. The content of this report represents the professional opinion of experienced environmental consultants. Remada does not provide specialist legal or other professional advice. The advice of other professionals may be required.

10. Where intrusive investigation techniques have been employed they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature of sampling, no investigation technique is capable of identifying all conditions present in all areas. In some cases the investigation is further limited by site operations, underground obstructions and above ground structures. Unless otherwise stated, areas beyond the boundary of the site have not been investigated.

11. If below ground intrusive investigations have been conducted as part of the scope, service tracing for safe location of exploratory holes has been carried out. The location of underground services shown on any drawing in this report has been determined by visual observations and electromagnetic techniques. No guarantee can be given that all services have been identified. Additional services, structures or other below ground obstructions, not indicated on the drawing, may be present on site.

12. Unless otherwise stated the report provides no comment on the nature of building materials, operational integrity of the facility or on any regulatory compliance issues.

13. Unless otherwise stated, samples from the site (soil, groundwater, building fabric or other samples) have NOT been analysed or assessed for waste classification purposes.