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Key

 EIA Assessment Boundary

CHECKING/VERIFICATION

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SCALE

1 / 2,500 @ A

DATE CREATED

13/07/2026

APPENDIX 3.1 – EIA Legislative Requirements

SCHEDULE 4

INFORMATION FOR INCLUSION IN ENVIRONMENTAL STATEMENTS

1. A description of the development, including in particular:
 - (a) a description of the location of the development;
 - (b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
 - (c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;
 - (d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases.
2. A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.
3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.
4. A description of the factors specified in regulation 4(2) likely to be significantly effected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.

5. A description of the likely significant effects of the development on the environment resulting from, inter alia:

- (a) the construction and existence of the development, including, where relevant, demolition works;
- (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
- (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
- (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
- (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;
- (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;
- (g) the technologies and the substances used.

The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC (1) and Directive 2009/147/EC(2).

6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.

8. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU (3) of the European Parliament and of the Council or Council Directive 2009/71/Euratom(4) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.
9. A non-technical summary of the information provided under paragraphs 1 to 8.
10. A reference list detailing the sources used for the descriptions and assessments included in the environmental statement

APPENDIX 7.1 – Agricultural Land Classification

**AGRICULTURAL QUALITY
OF LAND EAST OF HEYWOOD OLD ROAD**

Report 2674/2

16th September 2025

Land
Research
ASSOCIATES
www.lra.co.uk

**AGRICULTURAL QUALITY
OF LAND EAST OF HEYWOOD OLD ROAD**

M A Worsley, BSc, MSc

Report 2674/2
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16th September 2025

SUMMARY

An agricultural land quality survey has been undertaken of 21.1 ha of land east of Heywood Old Road, Greater Manchester in July 2025.

The land has soils with imperfect or poor drainage and, in places, strong slopes and complex topography (microrelief). The land is of Subgrade 3b, Grade 4 and Grade 5 agricultural quality. The principal limitations to agriculture are soil wetness, gradient and topography (microrelief).

1.0 Introduction

- 1.1 This report provides information on the agricultural quality of 21.1 ha of land east of Heywood Old Road, Greater Manchester. The report is based on a survey of the land in July 2025.

SITE ENVIRONMENT

- 1.2 The survey area is comprised of numerous agricultural fields to the north of Rhodes, west of Middleton and east of Heywood Old Road.
- 1.3 The survey area varies from gently to steeply sloping and has complex topography in places, particularly in the south. It has an average elevation of approximately 90 m AOD.
- 1.4 At the time of survey the land was under grassland maize , with scrub in the far south comprised of grasses and shrubs.

PUBLISHED INFORMATION

- 1.5 British Geological Survey 1:50,000 scale information records the basal geology of the survey area as Pennine Lower Coal Measures. Overlying surface deposits are recorded throughout: glacial sand and gravel and locally derived drift (Head).
- 1.6 The National Soil Map (published at 1:250,000 scale) records the survey area as belonging to the Newport 1 and Brickfield 3 Soil Associations. Newport 1 is mainly an association of sandy and coarse loamy soils formed from glaciofluvial drift. Brickfield 3 is mainly an association of fine loamy, fine loamy over clayey or clayey soils, formed from drift derived from sandstones and shale¹.

¹ Jarvis, R.A., et al., 1984. *Soils and their use in Northern England*. Soil Survey of England and Wales Bulletin No. 10, Harpenden.

2.0 Soils

- 2.1 A soils and agricultural quality survey was carried out in July 2025 in accordance with MAFF (1988) Agricultural Land Classification guidelines². During this survey soils were examined by auger borings and soil pits to a maximum depth of 1.2 m. Observations were made at a density of one per hectare. Observations were aligned to intersects of a 100 m grid where possible. However, in fields of mature maize observations were located on the edge of flattened trackways.
- 2.2 Soil auger records, soil pit descriptions and a map showing the location of each investigation point (Map 1) are attached to this report as appendices. Additional pit observations are included from a related survey on land west of Heywood Old Road.
- 2.3 A typical soil profile has a coarse loamy topsoil over a permeable fine loamy upper subsoil and a slowly permeable fine loamy lower subsoil. However, there is a degree of variation in the composition of soil parent material and subsoils often have coarse loamy, sandy and/or clayey bands. The subsoils are brownish or reddish. Stone content is low, with stoneless to very slightly stony topsoil and subsoil. The stones present are small, medium and large hard stones of varying type.
- 2.4 Almost all these soils are gleyed³ at shallow depth. Despite the variation outlined above, most soils have a slowly permeable horizon within 80 cm depth. The soils are mostly judged to belong to Wetness Class III or IV. They are imperfectly or poorly draining and are likely to suffer periodic or prolonged waterlogging between autumn and spring.
- 2.5 Occasionally there are soils with coarse or sandy subsoil to depth which lack a slowly permeable horizon. These soils are judged to belong to Wetness Class I or II. They are freely or moderately freely draining and may suffer slight seasonal waterlogging.

²MAFF, (1988). *Agricultural Land Classification for England and Wales: Guidelines and Criteria for Grading the Quality of Agricultural Land*.

³Gleying – greyish and pale soil colours with associated ochreous mottles resulting from reduction and mobilisation of iron compounds under anaerobic conditions (indicates periodic waterlogging).

3.0 Agricultural land quality

- 3.1 To assist in assessing land quality, the Ministry of Agriculture, Fisheries and Food (MAFF) developed a method for classifying agricultural land by grade according to the extent to which physical or chemical characteristics impose long-term limitations on agricultural use for food production. The MAFF ALC system classifies land into five grades numbered 1 to 5, with grade 3 divided into two subgrades (3a and 3b). The system was devised and introduced in the 1960s and revised in 1988.
- 3.2 The agricultural climate is an important factor in assessing the agricultural quality of land and has been calculated using the Climatological Data for Agricultural Land Classification⁴.
- 3.3 The relevant site data for an average elevation of 90 m and a central point at grid reference SD 848 055 is given below.
- Average annual rainfall: 1040 mm
 - January-June accumulated temperature >0°C 1338 day°
 - Field capacity period 240 days
 - Summer moisture deficits for:
wheat: 65 mm
potatoes: 47 mm
- 3.4 The survey described in the previous section was used in conjunction with the agro-climatic data above to classify the site using the revised guidelines for ALC issued in 1988 by MAFF. Due to the relatively wet climate at this locality, land quality is limited to a maximum of Grade 2.

SURVEY RESULTS

- 3.5 Agricultural land of Subgrade 3b, Grade 4 and Grade 5 quality has been identified. The principal limitations to agriculture are soil wetness, gradient and microrelief. Other factors have been assessed but do not alter the land grade.

Subgrade 3b

- 3.6 This land is mapped where soil wetness, slope gradient and topography (microrelief) are moderately severe limitations to agricultural use. The soil wetness limitation is a result of imperfect or poor soil drainage (Wetness Class III or IV) and a relatively wet local climate. The gradient and topography limitations are a result of gradients between 7 and 11

⁴Meteorological Office, (1989). *Climatological Data for Agricultural Land Classification*.

degrees and/or quite complex topography (microrelief⁵). Such land is likely to be capable of regular arable cropping and improved grassland.

Grade 4

- 3.7 This land is mapped where slope gradient and topography (microrelief) are severe limitations to agricultural use. This land has slopes between 11 and 18 degrees and/or complex topography. Cultivation and harvesting operations are increasingly difficult, and agricultural use is likely to be limited to improved grassland.

Grade 5

- 3.8 This land is mapped where slope gradient and topography (microrelief) are very severe limitations to agricultural use. This land has particularly complex topography and, locally, slopes in excess of 18 degrees. It is likely that such land is limited to rough grazing or environmental / habitat set aside only.

Other land

- 3.9 This land includes a road.

Grade areas

- 3.10 The land grades are shown on Map 2 and the areas occupied shown below.

Table 1: Areas occupied by the different land grades (ha)

<i>Grade/subgrade</i>	<i>Area (ha)</i>	<i>% of the land</i>
Subgrade 3b	9.6	46
Grade 4	8.7	41
Grade 5	2.4	11
Other land	0.4	2
Total	21.1	100

⁵Complex changes of slope angle over short distances which would present difficulties in the use of cultivation machinery.

APPENDICES:

1. SOIL AUGER LOG

2. SOIL PIT DESCRIPTIONS

3. MAPS

Land east of Heywood Old Road: Details of Soils and ALC survey

Obs	Topsoil			Upper subsoil			Lower subsoil			Slope	Wetness	Agricultural quality	
No	Depth (cm)	Texture	Stones >20 mm (%)	Depth (cm)	Texture	Mottling	Depth (cm)	Texture	Mottling	(°)	Class	Grade	Main limitation
1	0-25	MSZL	<5	25-46	SCL fmn	xxx	46-80+	SCL	xxx	12	IV	4	G, T
2	0-22	MSZL	<5	22-47	MCL	xxx	47-80+	rHCL	xxx	9	IV	4	T
3	0-20	MSZL	<5	20-45	MSL/SCL	xxx	45-80+	rSCL	xxx	12	IV	4	G, T
4	0-22	MSZL	<5	22-45	SCL	xxx	45-80+	rHCL	xxx	5	IV	3b	W
5	0-28	MSZL	<5	28-42	MSZL	x	42-56 56-80+	SCL rHCL	xxx xxx	3	III	3b	W
6	0-28	MSZL	<5	28-78	FSZL	xxx	78-100+	rSCL	xxx	4	III	3b	W
7	0-30	MSZL	<5	30-65	SCL	xxx	65-90+	rSCL	xxx	2	IV	3b	W
8	0-35	SCL	<5	35-80+	SCL	-	Disturbed			2	-	-	-
9	0-30	SCL	<5	30-62	SCL	xxx	62-80+	rSCL	xxx	4	IV	3b	W
10	0-24	MSL	<5	24-90+	LMS	-	Disturbed			8	-	5	T
11	0-30	MSZL	<5	30-48	SCL	xxx	48-80+	rSCL	xxx	8	IV	3b	W, G
12	0-26	MSZL	<5	26-50	MSZL	xxx	50-80+	rSCL	xxx	6	IV	3b	W
13	0-35	MSZL	<5	35-50	MSZL	o	50-60 60-90+	MSZL rSCL	xxx xxx	4	III	3b	W
14	0-45	MSZL	<5	45-80+	MSZL	xxx				8	II	3b	G
15	0-35	MSL	<5	35-50	MSL	xxx	50-80+	rSCL	xxx	6	IV	3b	W
16	0-30	MSZL	<5	30-68	SCL	x	68-90+	MS	xxx	9	I	4	T
17	0-26	MSZL	<5	26-45	SCL	xxx	45-80+	rHCL	xxx	12	IV	4	G, T
18	0-42	MSZL	<5	42-75	MSZL	xxx	75-100+	rSCL	xxx	4	III	3b	W
19	0-45	MSZL	<5	45-90+	LMS	xx				10	I	4	T
20	0-23	MSZL	<5	23-46	SCL	xxx	46-80+	rSCL	xxx	5	IV	3b	W
21	0-10	MSZL	<5	10-40	MSZL	o	40-56 56-80+	SCL SCL	o xxx	13	III	4	T, G

Soil log key

Gley indicators¹

o	unmottled
x	1-2% ochreous mottles and brownish matrix (or a few to common root mottles (topsoils)) ³
xx	>2% ochreous mottles and brownish matrix and/or dull structure faces (slightly gleyed horizon)
xxx	>2% ochreous mottles and greyish or pale matrix (gleyed horizon) or reddish matrix and >2% greyish, brownish or ochreous mottles or f-m concentrations and pale ped faces (gleyed horizon)
xxxx	dominantly blueish/greenish matrix, often with some reddish mottles (gleyed horizon)
xx(x)	Subsoils where gleying evidence is unclear in auger boring (especially reddish soils)

Slowly permeable layers⁴

a depth underlined (e.g. 50) indicates the top of a slowly permeable layer

A wavy underline (e.g. 50) indicates the top of a layer borderline to slowly permeable

Texture²

C – clay
ZC - silty clay
SC - sandy clay
CL - clay loam (H-heavy, M-medium)
ZCL - silty clay loam (H-heavy, M-medium)
SZL - sandy silt loam (F-fine, M-medium, C-coarse)
LS - loamy sand (F-fine, M-medium, C-coarse)
SL - sandy loam (F-fine, M-medium, C-coarse)
S - sand (F-fine, M-medium, C-coarse)
SCL - sandy clay loam
P - peat (H-humified, SF-semi-fibrous, F-fibrous)
LP - loamy peat; PL - peaty loam

Wetness Class⁵

I (freely drained) to VI (very poorly drained)

Limitations:

W - wetness/workability
D - droughtiness
De - depth
F - flooding
St – stoniness
G - gradient
T – topography/microrelief
Tx – texture
C - Climate

Suffixes & prefixes:

o - organic

(vsl, sl, m, v, x)**st** – (very slightly, slightly, moderately, very, extremely) **stoniness**⁶

(vsl, sl, m, v, x)**ca**
(very slightly, slightly, moderately, very, extremely) **calcareous**⁷

Other abbreviations

fmn - ferri-manganiferous concentrations
dist - disturbed soil layer; chky - chalky
R – bedrock (CH – chalk, SST – sandstone)
LST – limestone, MST – Mudstone)
gn – greenish

¹Gley indicators in accordance with Hodgson, J.M., 1997. Soil Survey Field Handbook (third edition). Soil survey technical monograph No. 5

²Texture in accordance with particle size classes in Hodgson (1997)

³ Occasionally recorded in the texture box

⁴Permeability is estimated for auger borings and must be confirmed by full pit observations in accordance with the definitions in: Revised Guidelines for grading the quality of Agricultural Land (Maff 1988)

⁵Soil Wetness Classes are defined in Hodgson (1997)

⁶stoniness classes as defined in Hodgson (1997)

⁷calcareous classes as defined in Hodgson (1997)

Grades shown as intergrade e.g. **3a/3b** are close to the grade boundary. The estimate of which side of the boundary the grading falls is the shown first (in bold here) grades in brackets eg. (3a) raised by one grade due to calcareous topsoil

Soil pit descriptions

Pit 18

0-42 cm	Very dark grey (10YR 3/1) medium sandy silt loam; 1-5% variable hard stones; moderately developed fine subangular blocky structure; very weak; many fine fibrous roots; wavy diffuse boundary to:
42-75 cm	Pale brown to light yellowish brown (10YR 6/3 to 6/4) medium sandy silt loam; 1-5% variable hard stones; weakly developed medium subangular blocky structure; moderately weak; common fine fibrous roots; >0.5% macropores; smooth gradual boundary to:
75-100+ cm	Reddish brown and reddish grey (5YR 5/3 + 5/2) sandy clay loam with common fine and medium strong brown and yellowish brown (7.5YR 5/6 + 10YR 5/6) mottles and pinkish grey (5YR 6/1) ped faces, with subordinate bands of sandy loam and loamy sand of similar colouring; stoneless; moderately developed very coarse prismatic structure; moderately firm (sandy clay loam) to very weak (loamy sand); a few fine fibrous roots; <0.5% macropores.

Slope: 4°. Wetness Class: III

Grade: 3b. Limitation: soil wetness.

Pit at 384050, 405550⁶

0-24 cm	Very dark grey (10YR 3/1) medium sandy loam with common dark brown (7.5YR 3/4) mottles; stoneless; moderately developed medium subangular blocky structure; moderately weak; abundant fine fibrous roots; smooth gradual boundary to:
24-39 cm	Light brownish grey to light yellowish brown (10YR 6/2 to 6/4) sandy clay loam with many yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) mottles; stoneless; weakly developed medium to coarse subangular blocky structure; moderately weak to moderately firm; common fine fibrous roots; c. 0.5% macropores; smooth gradual boundary to:
39-80+ cm	Reddish brown (5YR 5/3) heavy clay loam to clay with many medium and coarse strong brown (7.5YR 5/8) and many coarse light bluish grey (10B 7/1) mottles; stoneless; weakly developed very coarse prismatic structure; moderately firm; a few fine fibrous roots; <0.5% macropores.

Slope: 4°. Wetness Class: IV

Grade: 3b. Limitation: soil wetness.

Pit at 383850, 405450

0-20 cm	Very dark grey (10YR 3/1), becoming dark grey (10YR 4/1) towards base, sandy clay loam; 1-5% variable hard stones; weakly developed medium to coarse subangular blocky structure; moderately firm; common fine fibrous roots; wavy gradual boundary to:
20-45 cm	Dark greyish brown (10YR 4/2) medium sandy loam to sandy clay loam; 1-5% variable hard stones; weakly developed diagonally aligned medium to coarse platy structure; very strong in situ, very firm ex situ; a few becoming no roots.
45+ cm	Stopped, too firm.

Slope: 3°. Wetness Class: V

Grade: 4. Limitation: soil wetness.

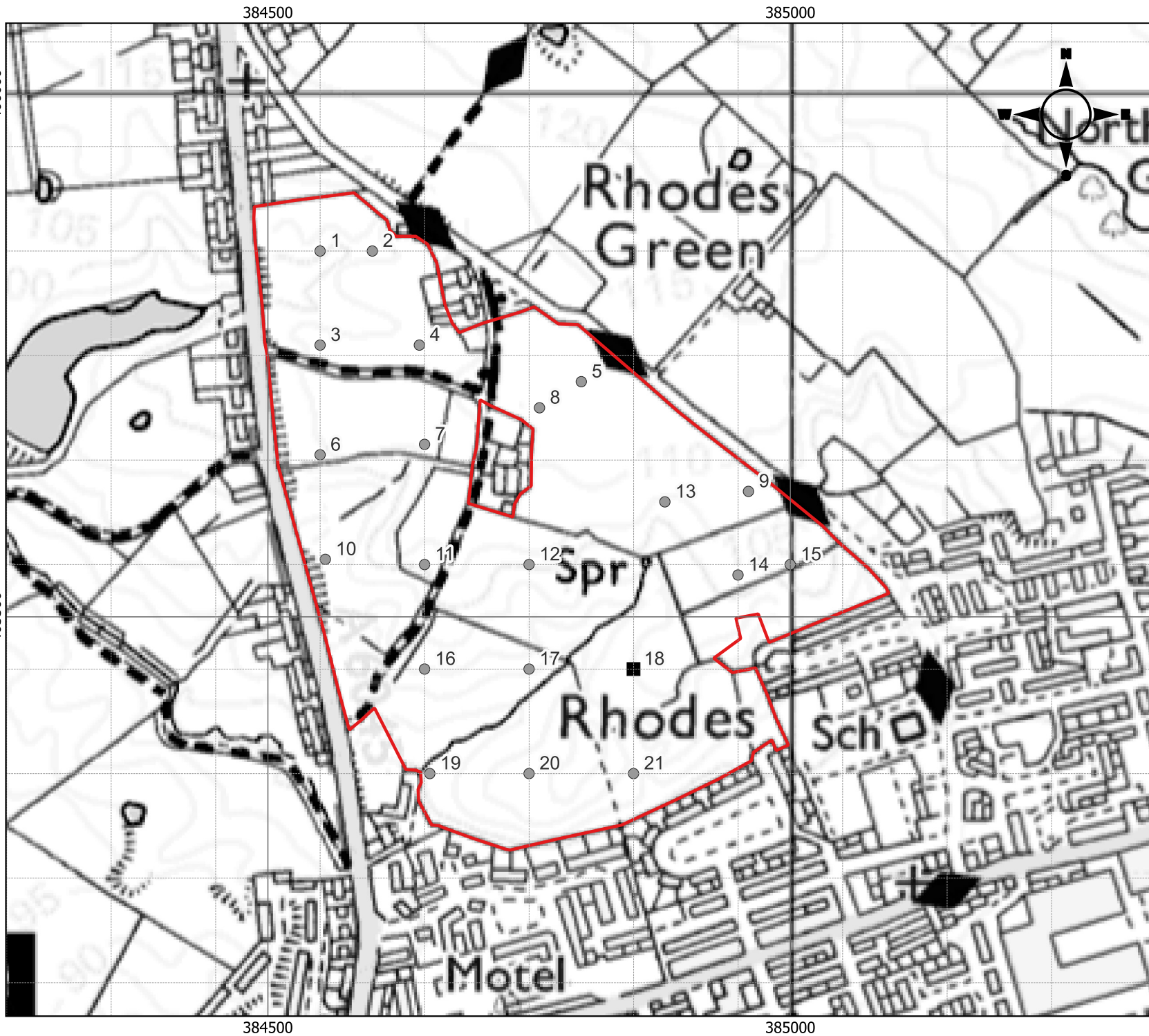
⁶ Soil pits dug during related survey on adjacent land with comparable geology.

Pit at 384250, 405450

0-25 cm	Very dark grey (10YR 3/1) medium sandy silt loam; stoneless; moderately developed fine subangular blocky structure; moderately weak; abundant roots; smooth gradual boundary to:
25-38 cm	Light brownish grey (10YR 6/2) medium clay loam with common fine and medium yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6); stoneless; weakly developed medium subangular blocky structure; moderately weak; many fine fibrous roots; >0.5% macropores; smooth gradual boundary to:
38-55 cm	Pale brown to yellowish brown (10YR 6/3 to 6/4) sandy clay loam; stoneless; weakly developed coarse angular blocky structure; moderately firm; common fine fibrous roots; <0.5% macropores; wavy gradual boundary to:
55-75 cm	Pinkish grey and white (5YR 7/2 + 8/1) fine sandy silt loam with common medium strong brown (7.5YR 5/6) mottles; stoneless; weakly developed coarse platy to massive structure; moderately firm (dry); a few fine fibrous roots; >0.5 macropores; clear irregular boundary to:
75-100 cm	Pink (5YR 6/2) heavy clay loam with many medium strong brown (7.5YR 5/8) mottles; stoneless; weakly developed very coarse prismatic structure; moderately firm; a few fine fibrous roots; <0.5% macropores.

Slope: 4°. Wetness Class: IV

Grade: 3b. Limitation: soil wetness.



Key

-  Survey area
-  Soil pit
-  Soil auger

Site:

Heywood Old Road East

Map:

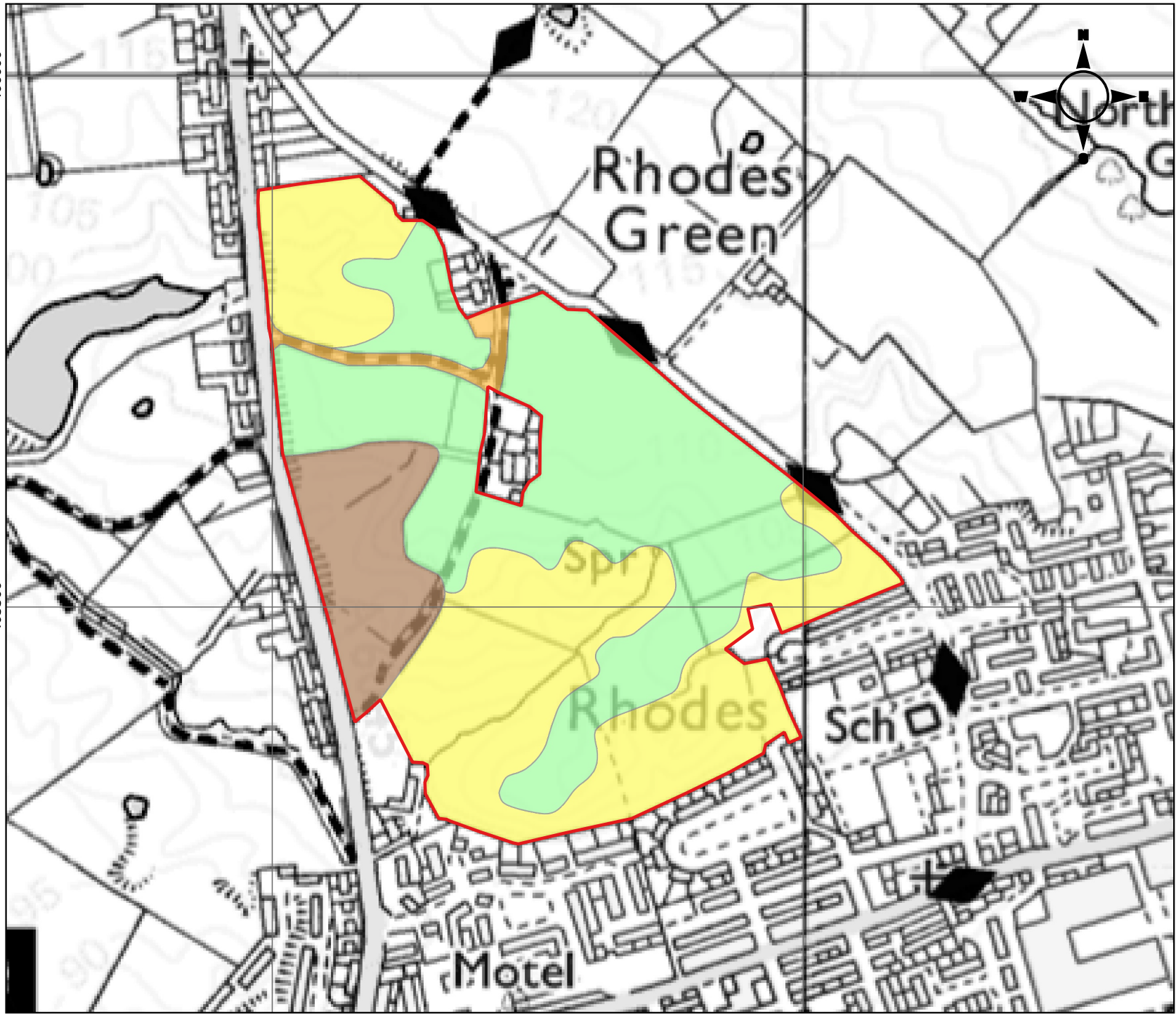
Map 1 - Observations

Date: 16 / 09 / 2025

Scale: 1 : 5,000 at A4

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Key

- Survey area
- Subgrade 3b
- Grade 4
- Grade 5
- Other land

Site:
Heywood Old Road East

Map:
Map 2 - Agricultural Land Classification

Date: 16 / 09 / 2025

Scale: 1 : 5,000 at A4

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**AGRICULTURAL QUALITY
OF LAND WEST OF HEYWOOD OLD ROAD**

Report 2674/1

28th August 2025

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**AGRICULTURAL QUALITY
OF LAND WEST OF HEYWOOD OLD ROAD**

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Report 2674/1
Land Research Associates Ltd
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28th August 2025

SUMMARY

An agricultural land quality survey has been undertaken of 62.6 ha of land west of Heywood Old Road, Greater Manchester in July 2025.

The land has undisturbed soils, typically with imperfect or poor drainage, or disturbed soils with very poor drainage. The land has strong slopes and complex topography in places. The land is of Subgrade 3b, Grade 4 and Grade 5 agricultural quality. The principal limitations to agriculture are soil wetness, gradient and microrelief.

1.0 Introduction

- 1.1 This report provides information on the agricultural quality of 62.6 ha of land west of Heywood Old Road, Greater Manchester. The report is based on a survey of the land in July 2025.

SITE ENVIRONMENT

- 1.2 The survey area is comprised of numerous agricultural fields to the north of the M60, west of Heywood Old Road and east of the M62. The fields are in two blocks: one larger block to the south of Simister Lane and one smaller block to the north. The survey area also includes an old farmstead, other hard standings, farm tracks, plus small wooded areas and ponds.
- 1.3 The survey area varies from gently to steeply sloping and has complex topography in places, particularly in the south-east. It has an average elevation of approximately 95 m AOD.
- 1.4 At the time of survey the agricultural land was beneath grass, grazed by horses north of Simister Lane.

PUBLISHED INFORMATION

- 1.5 British Geological Survey 1:50,000 scale information records the basal geology of the survey area as Pennine Coal Measures, sandstone of the Chester Formation and mudstone of the Manchester Marls Formation. Overlying surface deposits are recorded throughout: glacial sand and gravel and locally derived drift (Head).
- 1.6 The National Soil Map (published at 1:250,000 scale) records the survey area as belonging to the Newport 1 and Brickfield 3 Soil Associations. Newport 1 is mainly an association of sandy and coarse loamy soils formed from glaciofluvial drift. Brickfield 3 is mainly an association of fine loamy, fine loamy over clayey or clayey soils formed from drift derived from sandstones and shale¹.

¹ Jarvis, R.A., et al., 1984. *Soils and their use in Northern England*. Soil Survey of England and Wales Bulletin No. 10, Harpenden.

2.0 Soils

- 2.1 A soils and agricultural quality survey was carried out in July 2025 in accordance with MAFF (1988) Agricultural Land Classification guidelines². During this survey soils were examined by auger borings and soil pits to a maximum depth of 1.2 m. Observations were made at a density of one per hectare.
- 2.2 Soil auger records, soil pit descriptions and a map showing the location of each investigation point (Map 1) are attached to this report as appendices.
- 2.3 The survey area has two broad soil types: undisturbed soils, typically with imperfect or poor drainage, and disturbed soils with very poor drainage. More details are given below.

UNDISTURBED SOILS

- 2.4 These soils are dominant over much of the survey area. A typical soil profile has a coarse loamy topsoil over a permeable fine loamy upper subsoil and a slowly permeable fine loamy lower subsoil. However, there is a reasonable degree of variation in the parent material of these soils and subsoils often have coarse loamy, sandy and/or clayey bands. The subsoils are brownish or reddish. Stone content is low, with stoneless to very slightly stony topsoil and subsoil. The stones present are small, medium and large hard stones of varying type.
- 2.5 Almost all of these soils are gleyed³ at shallow depth and despite the variation outlined above, have a slowly permeable horizon within 80 cm depth. They are judged to belong to Wetness Class III or IV. They are imperfectly or poorly draining and are likely to suffer periodic or prolonged waterlogging between autumn and spring.
- 2.6 Occasionally these soils have coarse or sandy subsoil to depth and lack a slowly permeable horizon. These soils are judged to belong to Wetness Class I or II. They are freely or moderately freely draining and may suffer slight seasonal waterlogging.

DISTURBED SOILS

- 2.7 These soils are found in the south west on fields close to the M60. It is assumed that these soils were removed and replaced during / after motorway construction. The soils have a thin coarse loamy topsoil over dense and degraded coarse loamy or fine loamy subsoil. The soils are slowly permeable at shallow depth and under the relatively wet local climate

²MAFF, (1988). *Agricultural Land Classification for England and Wales: Guidelines and Criteria for Grading the Quality of Agricultural Land*.

³Gleying – greyish and pale soil colours with associated ochreous mottles resulting from reduction and mobilisation of iron compounds under anaerobic conditions (indicates periodic waterlogging).

they are judged to belong to Wetness Class V. They are very poorly draining and likely to be waterlogged at shallow depth for much of the year.

3.0 Agricultural land quality

- 3.1 To assist in assessing land quality, the Ministry of Agriculture, Fisheries and Food (MAFF) developed a method for classifying agricultural land by grade according to the extent to which physical or chemical characteristics impose long-term limitations on agricultural use for food production. The MAFF ALC system classifies land into five grades numbered 1 to 5, with grade 3 divided into two subgrades (3a and 3b). The system was devised and introduced in the 1960s and revised in 1988.
- 3.2 The agricultural climate is an important factor in assessing the agricultural quality of land and has been calculated using the Climatological Data for Agricultural Land Classification⁴.
- 3.3 The relevant site data for an average elevation of 95 m and a central point at grid reference SD 842 058 is given below.
- Average annual rainfall: 1048 mm
 - January-June accumulated temperature >0°C 1333 day°
 - Field capacity period 242 days
 - Summer moisture deficits for: wheat: 64 mm
potatoes: 46 mm
- 3.4 The survey described in the previous section was used in conjunction with the agro-climatic data above to classify the site using the revised guidelines for ALC issued in 1988 by MAFF. Due to the relatively wet climate at this locality, land quality is limited to a maximum of Grade 2.

SURVEY RESULTS

- 3.5 Agricultural land of Subgrade 3b, Grade 4 and Grade 5 quality has been identified. The principal limitations to agriculture are soil wetness, gradient and microrelief. Other factors have been assessed but do not alter the land grade.

Subgrade 3b

- 3.6 This land is mapped on undisturbed soils. It is mapped where slopes are less than 7 degrees and soil wetness is the principal limitation due to imperfect or poor drainage (Wetness Class III or IV) and a relatively wet local climate. It is also mapped where there are slopes are between 7 and 11 degrees and gradient is equally limiting with wetness.

⁴Meteorological Office, (1989). *Climatological Data for Agricultural Land Classification*.

3.7 Soil wetness and gradient are moderately severe limitations which limit the potential productivity and flexibility of this land. However, regular arable cropping, alongside improved grassland, is likely to be possible.

3.8 In patches there are better draining soils which could form slightly higher quality agricultural land if they were found contiguously and / or more extensively. However, the use of these soils is judged to be limited by the wetter soils surrounding.

Grade 4

3.9 This land is mapped on disturbed soils, where soil wetness is the principal limitation due to very poor soil drainage (Wetness Class V) and a relatively wet local climate. It is also mapped on undisturbed soils where there are slopes between 11 and 18 degree and/or there is complex topography (microrelief).

3.10 Soil wetness, gradient and topography are severe limitations which are likely to limit agricultural use to improved grassland, with some scope for occasional break fodder crops.

Grade 5

3.11 This land is mapped on undisturbed soils where there is particularly complex topography (microrelief).

3.12 Microrelief is a very severe limitation which is likely to limit agricultural use to rough grazing or environmental / habitat set aside only.

Other land

3.13 This includes buildings, hard standing, farm tracks, large pylons, a small electrical unit, small wooded areas and small ponds.

Grade areas

3.14 The land grades are shown on Map 2 and the areas occupied shown below.

Table 1: Areas occupied by the different land grades (ha)

<i>Grade/subgrade</i>	<i>Area (ha)</i>	<i>% of the land</i>
Subgrade 3b	36.7	59
Grade 4	20.9	33
Grade 5	2.2	4
Other land	2.8	4
Total	62.6	100

APPENDICES:

1. SOIL AUGER LOG

2. SOIL PIT DESCRIPTIONS

3. MAPS

Land west of Heywood Old Road: Details of Soils and ALC survey

Obs	Topsoil			Upper subsoil			Lower subsoil			Slope	Wetness	Agricultural quality	
No	Depth (cm)	Texture	Stones >20 mm (%)	Depth (cm)	Texture	Mottling	Depth (cm)	Texture	Mottling	(°)	Class	Grade	Main limitation
1	0-23	MSL	<5	23-44	SCL	xxx	<u>44-72</u> <u>72-80+</u>	SCL HCL	xxx xxx	4	IV	3b	W
2	0-22	MSZL	<5	22-36	SCL	xxx	<u>36-80+</u>	rC	xxx	5	IV	3b	W
3	0-24	MCL	<5	24-58	SCL	xxx	<u>58-80+</u>	rC	xxx	6	IV	3b	W
4	0-20	SCL	<5	20-55	MSL/LMS	xxx	<u>55-80+</u>	SCL	xxx	8	IV	3b	W, G
5	0-25	SCL	<5	25-48	SCL	xxx	<u>48-80+</u>	rC	xxx	4	IV	3b	W
6	0-27	MCL	<5	27-38	SCL	xxx	<u>38-80+</u>	rHCL	xxx	10	IV	3b	G
7	0-31	MCL	<5	31-41	MCL	xxx	<u>41-80+</u>	rHCL	xxx	6	IV	3b	W
8	0-30	MSZL	<5	30-48	MSZL	xxx	<u>48-80+</u>	HCL	xxx	4	IV	3b	W
9	0-30	MSZL	<5	30-58	MSL/SCL	xxx	<u>58-80+</u>	rHCL	xxx	6	IV	3b	W
10	0-25	MSL	<5	25-35	SCL	xxx	<u>35-80+</u>	HCL	xxx	3	IV	3b	W
11	0-30	MSL	<5	30-46	MSL	xxx	<u>46-80+</u>	rMSL	xxx	4	II	3a	W
12	0-30	MSZL	<5	30-45	MSL	xxx	45-65 <u>65-80+</u>	MS MSL	o o	4	II	3a	W
13	0-35	MCL	<5	35-60	SCL	xxx	<u>60-80+</u>	HCL	xxx	8	IV	3b	W, G
14	0-28	SCL	<5	28-43	SCL	xxx	<u>43-80+</u>	HCL	xxx	5	IV	3b	W
15	0-26	SCL	<5	26-55	SCL	xxx	<u>55-80+</u>	rSCL	xxx	4	IV	3b	W
16	0-22	SCL	<5	22-68	MSL	xxx	<u>68-90+</u>	rHCL	xxx	10	IV	3b	W, G
17	0-30	MCL	<5	30-45	SCL	xxx	<u>65-80+</u>	HCL/C	xxx	2	IV	3b	W
18	0-28	SCL	<5	28-48	SCL	xxx	48-65 <u>65-90+</u>	MSL rSCL	xxx xxx	5	III/IV	3b	W
19	0-30	MSL	<5	30-57	MSL	o	57-75 <u>75+</u>	Pty MS Stopped on stones	o	8	?	3b	G
20	0-30	SCL	<5	30-40	SCL	xxx	<u>40-80+</u>	rMSL	xxx	5	I/II	3b	G
21	0-20	MCL	<5	20-65	MCL	x	<u>65-80+</u>	MCL	xxx	12	III	4	G
22	0-23	MSZL	<5	23-41	SCL	xxx	<u>41-80+</u>	HCL/C	xxx	5	IV	3b	W
23	0-30	MCL	<5	30-45	MCL	xxx	<u>45-68</u> <u>68-80+</u>	MZCL HZCL	xxx xxx	4	IV	3b	W
24	0-20	MSL	<5	<u>20-35</u>	MSL	o	35+	Stopped, too firm, made ground		3	V	4	W

Obs	Topsoil			Upper subsoil			Lower subsoil			Slope	Wetness	Agricultural quality	
No	Depth (cm)	Texture	Stones >20 mm (%)	Depth (cm)	Texture	Mottling	Depth (cm)	Texture	Mottling	(°)	Class	Grade	Main limitation
25	0-25	MSL	<5	25-65	MSL	xxx	65-80+	rC	xxx	5	IV	3b	W
26	0-23	MSL	<5	23-55	rSCL	xxx	55+	Stopped, too firm		10	III/IV	3b	W, G
27	0-25	MSL	<5	25-50	rSCL	xxx	50-80+	rSCL	xxx	5	IV	3b	W
28	0-22	MSL	<5	22-53	rSCL	xxx	53-80+	rHCL	xxx	4	IV	3b	W
29	0-20	SCL	<5	20-45	SCL	xxx	45-80+	rHCL	xxx	3	IV	3b	W
30	0-20	MCL	<5	20-50	SCL	xx(x)	50-80 80+	MCL (ex. firm) Stopped, too firm, made ground	xx(x)	3	V	4	W
31	0-23	MSZL	<5	23-80+	MSZL	xxx				8	II	3b	G
32	0-24	MSL	<5	24-39	SCL	xxx	39-80+	rHCL/C	xxx	4	IV	3b	W
33	0-40	MSL	<5	40+	Stopped, disturbed					12	-	4	G, T
34	0-22	MSZL	<5	22-55	MSZL	o	55-80+	MSZL	xxx	12	I	4	G
35	0-25	MSZL	<5	25-40	MSZLslst	xxx	40+	Stopped, stones		4	III/IV	3b	W
36	0-20	SCL	<5	20-48	SCL	o	48+	Stopped, too firm, made ground		3	V	4	W
37	0-20	SCL	<5	20-45	MSL/SCL	o				3	V	4	W
38	0-20	MSL	<5	20-40	MSL	o	40+	Stopped, too firm, made ground		2	V	4	W
39	Not recorded												
40	0-25	MSZL	<5	25-45	HCL	xxx	45+	Stopped, disturbed		5	V	4	W
41	0-25	MSZL	<5	23-38	MCL	xxx	38-55 55-75 75-100+	rSCL rFSZL rHCL	xxx xxx xxx	4	IV	3b	W
42	0-22	MSZL	<5	22-55	MCL	o	55-80+	M/HCL	xxx	6	IIII	3b	W
43	0-20	SCL	<5	20-40	SCL	o	40+	Stopped, too firm, made ground		6	V	4	W
44	0-20	MSL/SCL	<5	20-45	SCL	o	45+	Stopped, too firm, made ground		3	V	4	W
45	0-35	LMS	<5	35-67	MS	o	67+	Stopped, too firm, made ground?		2	-	-	-
46	0-33	MSZL	<5	33-38	MS	xxx	85-100+	rC	xxx	2	II	3a	W
47	0-25	MSL	<5	25-46	SCL	xxx	46-80+	rSCL	xxx	12	IV	4	G, T
48	0-25	MSL	<5	25-48	MCL	xxx	48-80+	rHCL	xxx	12	IV	4	G
49	0-23	MCL	<5	23-80+	MSL	o				8	I	3b	T
50	0-25	MSZL	<5	25-70	SCL	o	70-100+	MSZL	o	12	I	4	G
51	0-20	MSL/SCL	<5	20-60	SCL	o	60+	Stopped, too firm, made ground		5	V	4	W

Obs	Topsoil			Upper subsoil			Lower subsoil			Slope	Wetness	Agricultural quality	
No	Depth (cm)	Texture	Stones >20 mm (%)	Depth (cm)	Texture	Mottling	Depth (cm)	Texture	Mottling	(°)	Class	Grade	Main limitation
52	0-20	MSL	<5	<u>20</u> -40	MSL	xxx	<u>40</u> -58 58-80+	SCL MS	xxx xxx	6	V	4	W
53	0-20	MSL	<5	<u>20</u> -45	SCL	xxx	45+	Stopped, too firm, made ground		3	V	4	W
54	0-20	MSZL	<5	<u>20</u> -37	MSZL	o	37+	Stopped, too firm, made ground		3	V	4	W
55	0-20	MCL	<5	20-45	MCL	xxx	<u>45</u> -70 70-90+	MCL rC	xxx xxx	12	IV	4	G, T
56	0-20	MCL	<5	20-50	MCL	xxx	<u>50</u> -80+	HCL	xxx	13	IV	4	G, T
57	0-30	MCL	<5	30-42	HCL	xxx	<u>42</u> -80+	rHZCL	xxx	6	IV	3b	W
58	0-20	MSL	<5	<u>20</u> -40	MSL	o	40+	Stopped, too firm, made ground		5	V	3b	W
59	0-30	MSZL	<5	30-42	SCL	x	<u>42</u> -65 <u>65</u> -80+	SCL HCL	xxx xxx	8	III	3b	W, G, T
60	0-28	MCL	<5	28-62	MCL	x	<u>62</u> -90+	SCL	xxx	8	III	3b	W, G
61	0-22	MCL	<5	22-70	MCL	xxx	<u>70</u> -90+	HCL	xxx	9	III	3b	W, G
62	0-32	SCL	<5	32-65	MSL	xx	65-90+	MSL	xxx	13	I	4	G, T

Soil log key

Gley indicators¹

o	unmottled
x	1-2% ochreous mottles and brownish matrix (or a few to common root mottles (topsoils)) ³
xx	>2% ochreous mottles and brownish matrix and/or dull structure faces (slightly gleyed horizon)
xxx	>2% ochreous mottles and greyish or pale matrix (gleyed horizon) or reddish matrix and >2% greyish, brownish or ochreous mottles or f-m concentrations and pale ped faces (gleyed horizon)
xxxx	dominantly blueish/greenish matrix, often with some reddish mottles (gleyed horizon)
xx(x)	Subsoils where gleying evidence is unclear in auger boring (especially reddish soils)

Slowly permeable layers⁴

a depth underlined (e.g. 50) indicates the top of a slowly permeable layer

A wavy underline (e.g. 50) indicates the top of a layer borderline to slowly permeable

Texture²

C – clay
ZC - silty clay
SC - sandy clay
CL - clay loam (H-heavy, M-medium)
ZCL - silty clay loam (H-heavy, M-medium)
SZL - sandy silt loam (F-fine, M-medium, C-coarse)
LS - loamy sand (F-fine, M-medium, C-coarse)
SL - sandy loam (F-fine, M-medium, C-coarse)
S - sand (F-fine, M-medium, C-coarse)
SCL - sandy clay loam
P - peat (H-humified, SF-semi-fibrous, F-fibrous)
LP - loamy peat; PL - peaty loam

Wetness Class⁵

I (freely drained) to VI (very poorly drained)

Limitations:

W - wetness/workability
D - droughtiness
De - depth
F - flooding
St – stoniness
G - gradient
T – topography/microrelief
Tx – texture
C - Climate

Suffixes & prefixes:

o - organic

(vsl, sl, m, v, x)**st** – (very slightly, slightly, moderately, very, extremely) **stony**⁶

(vsl, sl, m, v, x)**ca**
(very slightly, slightly, moderately, very, extremely) **calcareous**⁷

Other abbreviations

fmn - ferri-manganiferous concentrations
dist - disturbed soil layer; chky - chalky
R – bedrock (CH – chalk, SST – sandstone)
LST – limestone, MST – Mudstone)
gn – greenish

¹Gley indicators in accordance with Hodgson, J.M., 1997. Soil Survey Field Handbook (third edition). Soil survey technical monograph No. 5

²Texture in accordance with particle size classes in Hodgson (1997)

³ Occasionally recorded in the texture box

⁴Permeability is estimated for auger borings and must be confirmed by full pit observations in accordance with the definitions in: Revised Guidelines for grading the quality of Agricultural Land (Maff 1988)

⁵Soil Wetness Classes are defined in Hodgson (1997)

⁶stoniness classes as defined in Hodgson (1997)

⁷calcareous classes as defined in Hodgson (1997)

Grades shown as intergrade e.g. **3a/3b** are close to the grade boundary. The estimate of which side of the boundary the grading falls is the shown first (in bold here) grades in brackets eg. (3a) raised by one grade due to calcareous topsoil

Soil pit descriptions

Pit 32

- 0-24 cm Very dark grey (10YR 3/1) medium sandy loam with common dark brown (7.5YR 3/4) mottles; stoneless; moderately developed medium subangular blocky structure; moderately weak; abundant fine fibrous roots; smooth gradual boundary to:
- 24-39 cm Light brownish grey to light yellowish brown (10YR 6/2 to 6/4) sandy clay loam with many yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) mottles; stoneless; weakly developed medium to coarse subangular blocky structure; moderately weak to moderately firm; common fine fibrous roots; c. 0.5% macropores; smooth gradual boundary to:
- 39-80+ cm Reddish brown (5YR 5/3) heavy clay loam to clay with many medium and coarse strong brown (7.5YR 5/8) and many coarse light bluish grey (10B 7/1) mottles; stoneless; weakly developed very coarse prismatic structure; moderately firm; a few fine fibrous roots; <0.5% macropores.

Slope: 4°. Wetness Class: IV

Grade: 3b. Limitation: soil wetness.

Pit 37

- 0-20 cm Very dark grey (10YR 3/1), becoming dark grey (10YR 4/1) towards base, sandy clay loam; 1-5% variable hard stones; weakly developed medium to coarse subangular blocky structure; moderately firm; common fine fibrous roots; wavy gradual boundary to:
- 20-45 cm Dark greyish brown (10YR 4/2) medium sandy loam to sandy clay loam; 1-5% variable hard stones; weakly developed diagonally aligned medium to coarse platy structure; very strong in situ, very firm ex situ; a few becoming no roots.
- 45+ cm Stopped, too firm.

Slope: 3°. Wetness Class: V

Grade: 4. Limitation: soil wetness.

Pit 41

- 0-25 cm Very dark grey (10YR 3/1) medium sandy silt loam; stoneless; moderately developed fine subangular blocky structure; moderately weak; abundant roots; smooth gradual boundary to:
- 25-38 cm Light brownish grey (10YR 6/2) medium clay loam with common fine and medium yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6); stoneless; weakly developed medium subangular blocky structure; moderately weak; many fine fibrous roots; >0.5% macropores; smooth gradual boundary to:
- 38-55 cm Pale brown to yellowish brown (10YR 6/3 to 6/4) sandy clay loam; stoneless; weakly developed coarse angular blocky structure; moderately firm; common fine fibrous roots; <0.5% macropores; wavy gradual boundary to:
- 55-75 cm Pinkish grey and white (5YR 7/2 + 8/1) fine sandy silt loam with common medium strong brown (7.5YR 5/6) mottles; stoneless; weakly developed coarse platy to massive structure; moderately firm (dry); a few fine fibrous roots; >0.5 macropores; clear irregular boundary to:
- 75-100 cm Pink (5YR 6/2) heavy clay loam with many medium strong brown (7.5YR 5/8) mottles; stoneless; weakly developed very coarse prismatic structure; moderately firm; a few fine fibrous roots; <0.5% macropores.

Slope: 4°. Wetness Class: IV

Grade: 3b. Limitation: soil wetness.

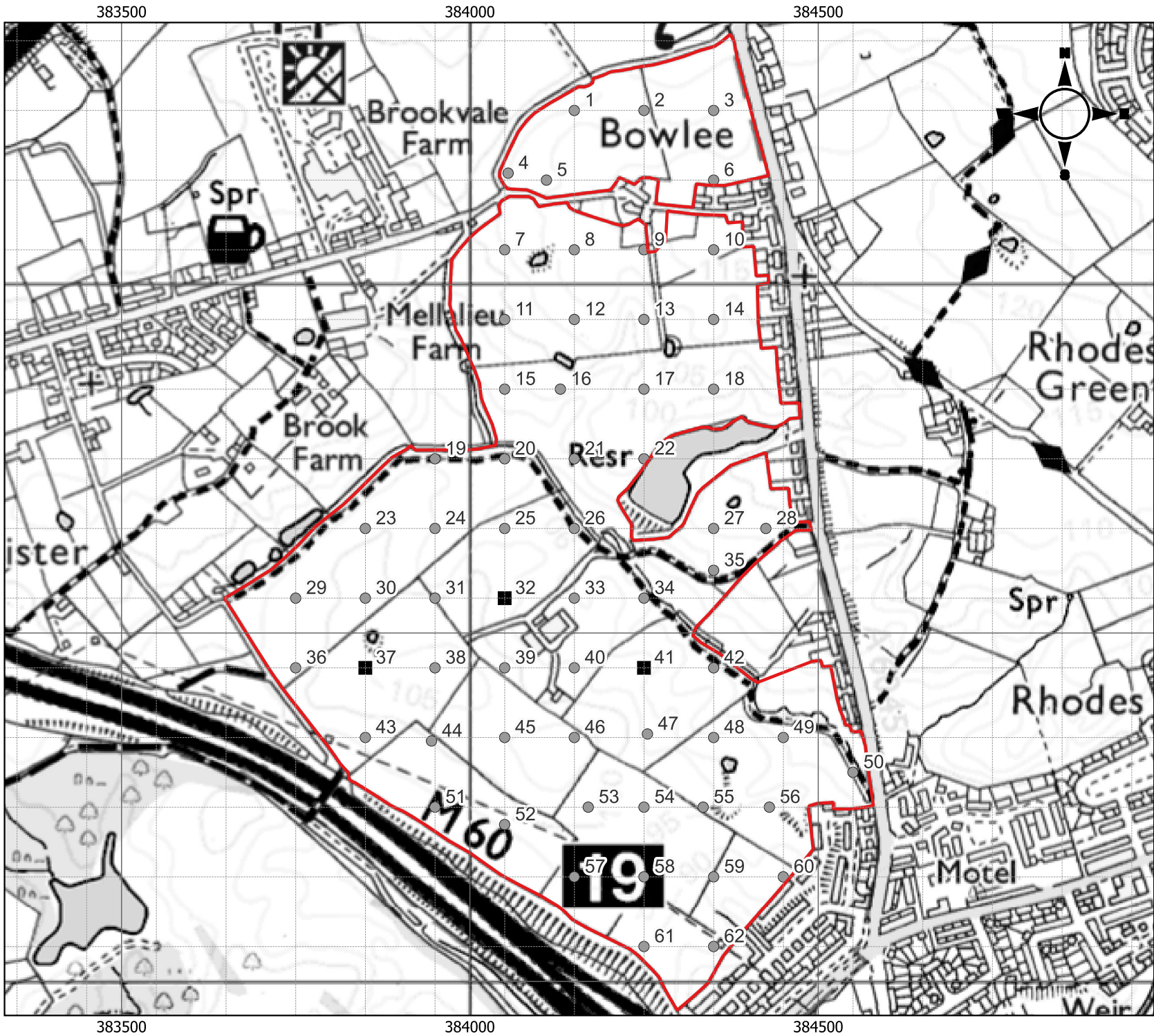
Pit at 384850, 405450⁵

0-42 cm	Very dark grey (10YR 3/1) medium sandy silt loam; 1-5% variable hard stones; moderately developed fine subangular blocky structure; very weak; many fine fibrous roots; wavy diffuse boundary to:
42-75 cm	Pale brown to light yellowish brown (10YR 6/3 to 6/4) medium sandy silt loam; 1-5% variable hard stones; weakly developed medium subangular blocky structure; moderately weak; common fine fibrous roots; >0.5% macropores; smooth gradual boundary to:
75-100+ cm	Reddish brown and reddish grey (5YR 5/3 + 5/2) sandy clay loam with common fine and medium strong brown and yellowish brown (7.5YR 5/6 + 10YR 5/6) mottles and pinkish grey (5YR 6/1) ped faces, with subordinate bands of sandy loam and loamy sand of similar colouring; stoneless; moderately developed very coarse prismatic structure; moderately firm (sandy clay loam) to very weak (loamy sand); a few fine fibrous roots; <0.5% macropores.

Slope: 4°. Wetness Class: III

Grade: 3b. Limitation: soil wetness.

⁵ Soil pit dug during related survey on adjacent land with comparable geology.



Key

- Survey area
- Soil pit
- Soil auger

Site:
Heywood Old Road West

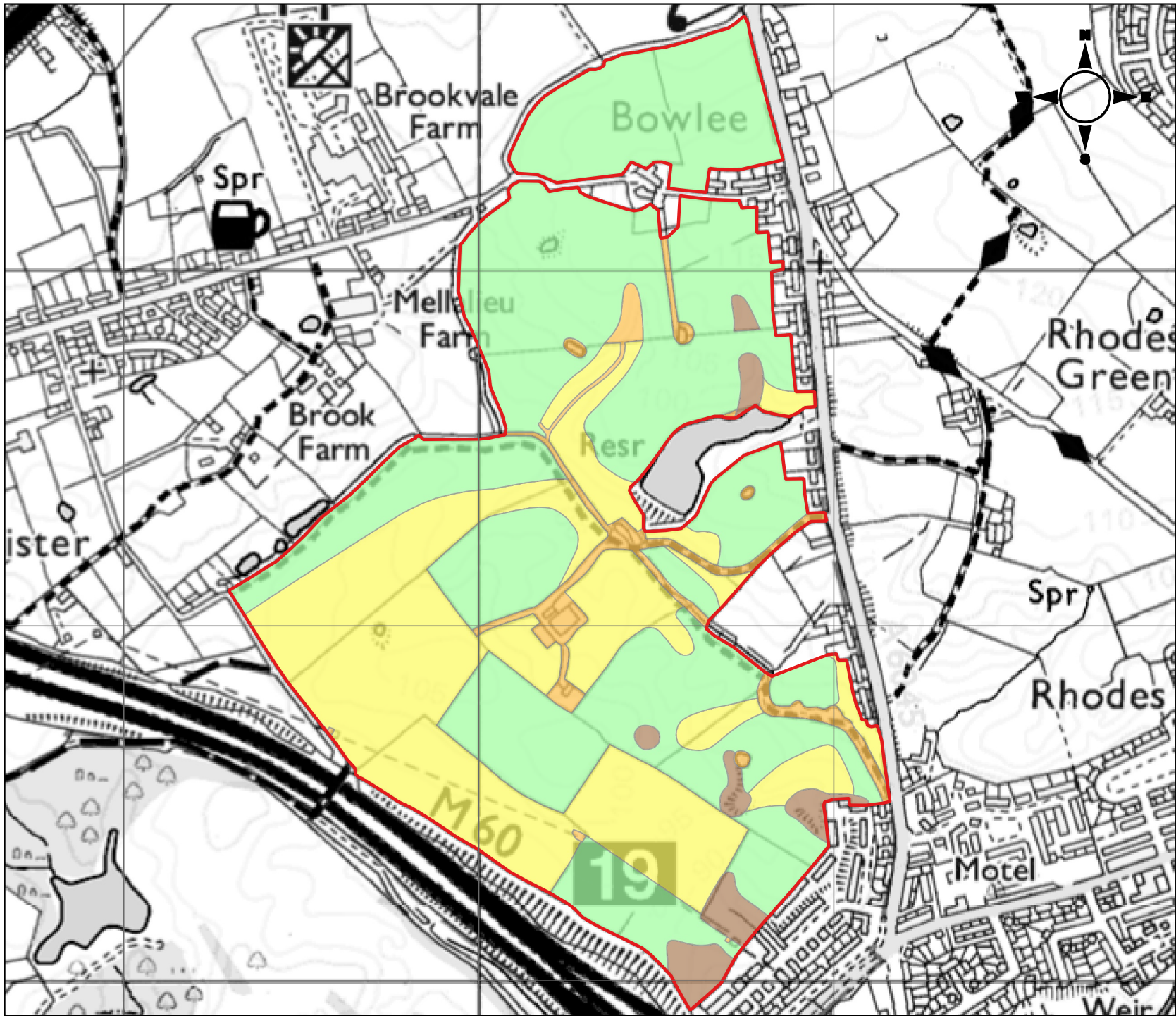
Map:
Map 1 - Observations

Date: 28 / 08 / 2025

Scale: 1 :7,500 at A4



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Chesterfield
S41 0TZ
www.lra.co.uk



- Key
- Survey area
 - Subgrade 3b
 - Grade 4
 - Grade 5
 - Other land

Site:
Heywood Old Road West

Map:
Map 2 - Agricultural Land Classification

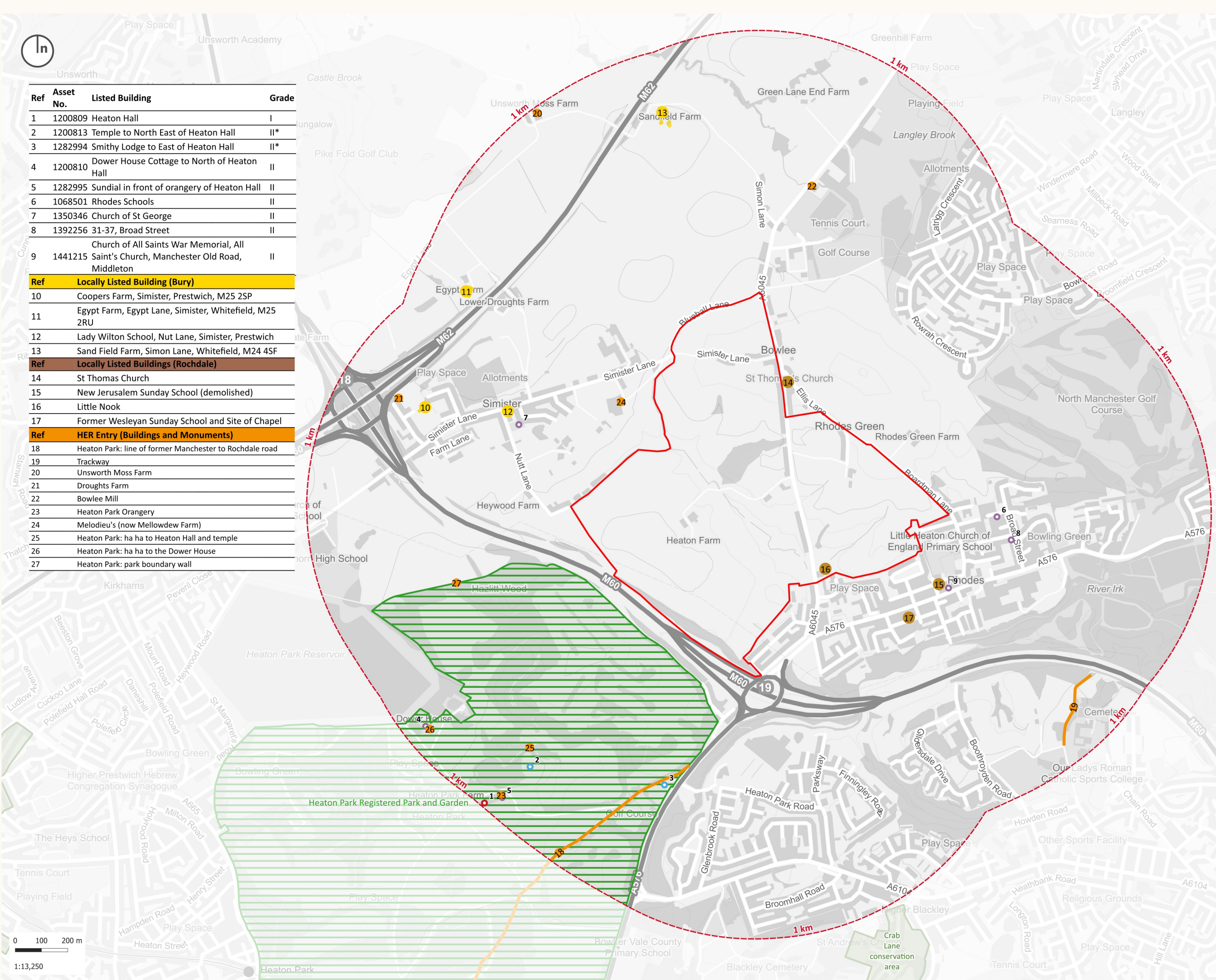
Date: 28 / 08 / 2025

Scale: 1 :7,500 at A4

Land Research
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APPENDIX 7.2 – Heritage Asset Plan



Ref	Asset No.	Listed Building	Grade
1	1200809	Heaton Hall	I
2	1200813	Temple to North East of Heaton Hall	II*
3	1282994	Smithy Lodge to East of Heaton Hall	II*
4	1200810	Dower House Cottage to North of Heaton Hall	II
5	1282995	Sundial in front of orangery of Heaton Hall	II
6	1068501	Rhodes Schools	II
7	1350346	Church of St George	II
8	1392256	31-37, Broad Street	II
9	1441215	Church of All Saints War Memorial, All Saint's Church, Manchester Old Road, Middleton	II
Ref	Locally Listed Building (Bury)		
10		Coopers Farm, Simister, Prestwich, M25 2SP	
11		Egypt Farm, Egypt Lane, Simister, Whitefield, M25 2RU	
12		Lady Wilton School, Nut Lane, Simister, Prestwich	
13		Sand Field Farm, Simon Lane, Whitefield, M24 4SF	
Ref	Locally Listed Buildings (Rochdale)		
14		St Thomas Church	
15		New Jerusalem Sunday School (demolished)	
16		Little Nook	
17		Former Wesleyan Sunday School and Site of Chapel	
Ref	HER Entry (Buildings and Monuments)		
18		Heaton Park: line of former Manchester to Rochdale road	
19		Trackway	
20		Unsworth Moss Farm	
21		Droughts Farm	
22		Bowlee Mill	
23		Heaton Park Orangery	
24		Melodieu's (now Mellowdew Farm)	
25		Heaton Park: ha ha to Heaton Hall and temple	
26		Heaton Park: ha ha to the Dower House	
27		Heaton Park: park boundary wall	

0 100 200 m
1:13,250



Client
Northern Gateway Development Vehicle LLP

Project
Northern Gateway JPA 1.2

Drawing
Heritage Asset Plan

Project Number
RUSH3008

Drawing Number
GIS_000

Date
June 2026

Revision
1.0

Checked By
KM

Scale
1:13,250 @ A3

Status
Final

- Assessment Boundary
- Study Area
- Conservation Area
- Registered Park and Garden
- Listed Buildings**
- I
 - II*
 - II
 - Locally Listed Buildings (Bury)
 - Locally Listed Buildings (Rochdale)
 - Greater Manchester HER Entry

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APPENDIX 7.3 – Geo-environmental and Geotechnical Desk Study

Northern Gateway JPA1.2

Geo-environmental and Geotechnical Desk Study





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Geo-environmental and Geotechnical Desk Study Report

Document Control

Document:	JPA1.2 Geo-environmental and Geotechnical Desk Study
Project:	Northern Gateway JPA1.2
Client:	Northern Gateway Development Joint Venture
Job Number:	784-B048805-JPA1.2
Document Number	TTE-B048805-XX-XX-RP-G-0002

Revision:	P01	Status:	For information
Date:	November 2025		
Prepared by: Phillip Windslow and Alister Teow Senior Geo-environmental Consultant and Engineering Geologist		Checked by:   Iain Muir and Patricia Gill Associate Director and Director – Geo-environment	Approved by:  Iain Muir (CGeol) Associate Director – Geo-environment
Description of revision: First Issue			

Revision:	P02	Status:	For information
Date:	July 2026		
Prepared by: Phillip Windslow and Alister Teow Senior Geo-environmental Consultant and Engineering Geologist		Checked by:  Iain Muir Associate Director and Director – Geo-environment	Approved by:  Iain Muir (CGeol) Associate Director – Geo-environment
Description of revision: Update to Limitations wording.			

EXECUTIVE SUMMARIES

Western Parcel Executive Summary

WESTERN PARCEL	
Brief	Tetra Tech Ltd was commissioned by Northern Gateway Development Joint Venture (NGDJV) to undertake a Geo-Environmental and Geotechnical Desk Study for the Northern Gateway Development Area JPA1.2 site to provide a preliminary assessment of potential ground condition related constraints associated with proposed future development. The site comprises two areas, the Western Parcel and the Eastern Parcel either side of Heywood Old Road. Geo-environmental and geotechnical appraisal of both parcels has been undertaken. Initial assessment was undertaken in 2024 followed by expansion of the scope of work in 2025.
Proposed Development	The anticipated development will be low rise residential housing.
The Site	The Western Parcel is approximately 62.5 hectares (Ha) centred around 384190E, 405610N. The parcel is approximately bounded by Heywood Old Road to the east, the M60 to the south and Simister Lane to the north. The parcel is approximately 9km north of Manchester city centre and currently comprises agricultural fields and farm buildings.
Surrounding Site Information	The area to the north comprises agricultural land. To the east comprises agricultural land (associated with the Eastern Parcel) and residential properties with Middleton beyond that. To the south comprises M60 with Heaton Park beyond that to the southwest and residential properties to the southeast. To the west comprises agricultural land and residential properties with the town of Simister beyond that. A reservoir (used as a fishing pond) is present near the centre of this parcel and is retained by an approximately 10m high embankment of unknown construction.
Site Walkover	At the time of the site walkover (May 2024) the agricultural fields were wet in places but generally were firm underfoot, with vehicle access possibly along all existing tracks. Suspected Japanese Knotweed was noted along the southeast boundary with the residential properties and near the foot of the reservoir. Suspected Himalayan Balsam was also observed. Some small areas of made ground were noted, usually for localised leveling. Potential asbestos containing materials (ACM) were noted within made ground in the centre of the Western Parcel. Several small-scale slope failures were noted.
Site History	The site comprised predominantly agricultural fields with associated field boundaries from 1849 mapping. Several small ponds were present across the site from 1849 mapping. Small Sand and Gravel pits were present within the site from 1849 mapping. Reservoir present in the centre of the site from 1894 with associated earthworks.

	Reprofiling of the southwest boundary by 1974 mapping associated with the development of the M60 motorway. Farm buildings in the centre of the site present from 1999 mapping.
Geology	The geology is recorded as comprising: • Potential Made Ground associated with infilled ponds, sand pits, farm buildings and motorway cuttings. • Superficial deposits are indicated to be Morainic Deposits (poorly sorted sand, gravel and silty clay with a moundy topography) across the majority of the parcel. A small area of Glaciofluvial Sheet Deposits (sand and gravel) are mapped in the south of the Western Parcel. Head Deposits (clay, silt, sand and gravel) are mapped as present along the stream that runs northwest to southeast through the Western Parcel. Till (clay to sandy clay, unsorted, with gravel, cobbles and boulders) is anticipated to be present beneath the other superficial deposits. Given the variable topography at the site there is potential for variation in both the lateral and horizontal distribution of superficial deposits and for variation in their composition. • Bedrock strata of both the Pennine Lower and Middle Coal Measures Formation comprising mudstone, siltstone and sandstone. In the southwest the Chester Formation (Sandstone) is present with a small area in the southeast where the Manchester Marls Formation (mudstone) outcrops. Bedrock is anticipated to be at approximately 60m to 70m above Ordnance Datum, with potential for it to be lower in the vicinity of the southern boundary due to proximity of a buried valley.
Hydrogeology & Hydrology	The parcel is not located within a groundwater Source Protection Zone. The superficial aquifer designations comprise: • Secondary A (Glaciofluvial Sheet Deposits). • Secondary Undifferentiated (Morainic Deposits, Till and Head). The bedrock aquifer designations comprise: • Secondary A (Pennine Lower Coal Measures and Pennine Middle Coal Measures). • Principal (Chester Formation Sandstone – southern part of the site). • Secondary B (Manchester Marls Formation – southeast). A stream runs along the western boundary and through the site from northwest to southeast. A reservoir is present near the eastern central portion of the parcel (outside study boundary).
UXO Risk	An unexploded ordnance (UXO) desk study has been completed and describes the site as being low risk with the recommended mitigation measures comprising a UXO awareness briefing for excavations.
Preliminary Coal Mining Risk Assessment	The site falls within a Coal Mining Reporting Area however is not within a Development High Risk Area defined by the Mining Remediation Authority. The risk to the site from historic coal mining has been assessed as low.
Preliminary Ground Contamination Assessment	The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel. Without further assessment radon protection measures are likely to be required for properties constructed over Head Deposits, of if Head Deposits are excavated and placed as fill in construction areas. Ground gas has not been identified as a risk for this parcel and is not considered further.

	The presence of areas of contamination at the site cannot be ruled out however given the historical use and general agricultural setting of the site it is reasonable to assume that such areas of contamination will be relatively localised. The risk from ground contamination at the site is considered to be as follows: • Moderate/Low risk to future site users / residents and construction workers from made ground on site. • Low risk to controlled waters (surface waters and underlying aquifers) from made ground on site. • Low risk to future site users / residents, construction workers and a Moderate/Low risk to controlled waters (surface waters and underlying aquifers) from potential hydrocarbons on site. • Low risk to future site users / residents and construction workers and controlled waters from pesticides / herbicides on site. • Low risk to potable pipework from made ground on site.
Preliminary Geotechnical Assessment	The geotechnical risk register details the potential geotechnical risks associated with the Western Parcel. Exact loadings and the extent of cut and fill operations are not currently known, however it is anticipated that a significant proportion of the site will need to be re-engineered and levelled to create platforms for development. Where competent natural strata is present following cut/fill works traditional strip foundations are likely to be suitable and, dependant on the earthworks specifications, the re-engineered material may be suitable for raft foundations or reinforced strip foundations. Un-engineered made ground may be present in former sand pits and presents a risk of differential settlement. Although outside the site boundary, the pond retained by an embankment presents a potential significant risk due to its age and unknown construction methods.
Recommendations	Suspected Japanese Knotweed and Himalayan Balsam were identified in two areas of the parcel, one along the boundary with the flats in the southeast and the other along the reservoir (fishing pond) overflow. It is recommended that an ecologist is consulted in advance of construction phase works near these areas. Note treatment of invasive species sometimes requires excavation and disposal of root networks or other mitigation measures to prevent re-growth from roots. Ground investigation to characterise ground conditions will be required across the site. It may be the case that more than one phase of ground investigation will be required as design progresses. Geotechnical ground investigation will be required to address uncertainties, obtain information relating to geotechnical risks and determine the parameters of the underlying soils and to obtain data for geotechnical design including foundations, earthworks, retaining structures, settlement assessment and pavement design and to provide information about groundwater levels. Geochemical testing of the soils will be required to confirm the concrete classification. Geo-environmental investigation and testing of the underlying soils will be required for the following: • targeting the identified potential sources of contamination;

- characterising the contamination status of soils proposed for reuse as part of cut/fill earthworks (e.g. as part of demonstrating suitability for use).
- characterising the contamination status of groundwater (e.g. to allow assessment of potential impacts to groundwater associated with reuse of materials as part of cut/fill earthworks).
- geochemical testing of soils to assess the concrete classification.

Areas of tarmacadam (e.g. existing tracks) will require testing to determine the composition and concentration of coal tar present in the material.

The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel, where 10%-30% of homes could be recorded above the action level. A site-specific radon assessment should be undertaken to confirm the presence and classification of radon risk at the site.

Investigation and monitoring of the embankment for the reservoir is recommended to assess its construction and long-term stability. Further advice from a specialist dam consultant is recommended.

Slope stability assessment may be required in the future depending on cut/fill proposals. The geotechnical properties of the material that a slope will be created from and the proposed angle of a slope are required in order to undertake slope stability assessment.

THIS EXECUTIVE SUMMARY IS TO BE READ IN CONJUNCTION WITH THE REPORT TO WHICH IT RELATES.

Eastern Parcel Executive Summary

<u>EASTERN PARCEL</u>	
Brief	Tetra Tech Ltd was commissioned by Northern Gateway Development Joint Venture (NGDJV) to undertake a Geo-Environmental and Geotechnical Desk Study for the Northern Gateway Development Area JPA1.2 site to provide a preliminary assessment of potential ground condition related constraints associated with proposed future development. The site comprises two areas, the Western Parcel and the Eastern Parcel either side of Heywood Old Road. Geo-environmental and geotechnical appraisal of both parcels has been undertaken. Initial assessment was undertaken in 2024 followed by expansion of the scope of work in 2025.
Proposed Development	The anticipated development will be low rise residential housing.
The Site	The Eastern Parcel is approximately 22Ha centred around 384730E, 405550N. The parcel is bounded by Heywood Old Road to the west, Boardman Lane to the northeast and residential properties of Rhodes to the south. The parcel is approximately 9km north of Manchester City Centre and currently comprises agricultural fields and sporadic farm buildings.

Surrounding Site Information	The area to the north comprises agricultural land. To the east the parcel is bound by Boardman Lane with residential properties, North Manchester Golf Course and Middleton beyond that. To the south comprises residential properties along Manchester Old Road (A576). To the west is agricultural land (associated with the western parcel).
Site Walkover	At the time of the site walkover (May 2024) the agricultural fields were wet in places but generally were underfoot, with very soft ground present in the far southwest. Some small areas of made ground were noted with the remains of concrete pads and several below ground utility covers, likely associated with a drain, noted around the site. A minor slope failure was observed at western area and appears to be associated with the historical sandpits. Following the subsequent October 2025 site walkover, an area of potential slope instability of observed in the western area of the site (east of Heywood Old Road). An overland flow path and ponded area were also noted in the same location.
Site History	The site comprised predominantly agricultural fields with associated field boundaries from 1848 mapping. Bagley Brown Road ran from the north to the southwest through the site but was no longer present by 2001 mapping. Sand and Gravel pits were present across the site from 1848 mapping, potentially infilled. Wells and a pump were present onsite from 1891 to 1893 mapping. Bleach Works present immediately south of site in early 1900s.
Geology	The geology is recorded as comprising: • Potential Made Ground associated with infilled ponds, sand pits, farm buildings. • Superficial deposits are indicated to be Morainic Deposits (poorly sorted sand, gravel and silty clay with a moundy topography) across the majority of the parcel. Head Deposits (clay, silt, sand and gravel) are mapped as present along the stream that runs northwest to southwest through the Eastern Parcel. Peat may be present associated with the central portion of the Eastern Parcel where there is no agricultural activity. Till (clay to sandy clay, unsorted, with gravel, cobbles and boulders) is anticipated to be present beneath the other superficial deposits. Given the variable topography at the site there is potential for variation in both the lateral and horizontal distribution of superficial deposits and for variation in their composition. • Bedrock strata of the Pennine Lower Coal Measures Formation comprising mudstone, siltstone and sandstone. Bedrock is anticipated to be at approximately 60m to 70m above Ordnance Datum, with potential for it to be lower in the vicinity of the southern boundary due to proximity of a buried valley.
Hydrogeology & Hydrology	The parcel is not located within a groundwater Source Protection Zone. The superficial aquifer designations comprise: • Secondary Undifferentiated (Morainic Deposits and Head). The bedrock aquifer designations comprise: • Secondary A (Pennine Lower Coal Measures). Three small streams run through the site, all heading southwest.

Unexploded Ordnance Risk	An unexploded ordnance (UXO) desk study has been completed and describes the site as being low risk with the recommended mitigation measures comprising a UXO awareness briefing for excavations.
Preliminary Coal Mining Risk Assessment	The site falls within a Coal Mining Reporting Area however is not within a Development High Risk Area defined by the Mining Remediation Authority. The risk to the site from historic coal mining has been assessed as low.
Preliminary Ground Contamination Assessment	The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel. Without further assessment radon protection measures are likely to be required for properties constructed over Head Deposits, of if Head Deposits are excavated and placed as fill in construction areas. Ground gas has not been identified as a risk for this parcel and is not considered further. The presence of areas of contamination at the site cannot be ruled out however given the historical use and general agricultural setting of the site it is reasonable to assume that such areas of contamination will be relatively localised. The risk from ground contamination at the site is generally considered to be as follows: • Moderate/Low risk to future site users / residents and construction workers from made ground on site. • Low risk to controlled waters (surface waters and underlying aquifers) from made ground on site. • Low risk to future site users / residents, construction workers and a Moderate/Low risk to controlled waters (surface waters and underlying aquifers) from potential hydrocarbons on site. • Low risk to future site users / residents and construction workers and controlled waters from pesticides / herbicides on site. • Low risk to potable pipework from made ground on site.
Preliminary Geotechnical Assessment	The geotechnical risk register details the potential geotechnical risks associated with the Eastern Parcel. Exact loadings and the extent of cut and fill operations are not currently known, however it is anticipated that a significant proportion of the site will need to be re-engineered and levelled to create platforms for development. Where competent natural strata is present following cut/fill works traditional strip foundations are likely to be suitable and, dependant on the earthworks specifications, the re-engineered material may be suitable for raft foundations or reinforced strip foundations. Un-engineered made ground may be present in former and inferred sand pits and presents a risk of differential settlement. There may be a risk of slope instability on site. This risk is greatest in the vicinity of existing streams or a spur line (e.g., western portion of the Eastern Parcel).

Recommendations

Ground investigation to characterise ground conditions will be required across the site. It may be the case that more than one phase of ground investigation will be required as design progresses.

Geotechnical ground investigation will be required to address uncertainties, obtain information relating to geotechnical risks and determine the parameters of the underlying soils and to obtain data for geotechnical design including foundations, earthworks, retaining structures, settlement assessment and pavement design and to provide information about groundwater levels.

Geo-environmental investigation and testing of the underlying soils will be required for the following:

- targeting the identified potential sources of contamination;
- characterising the contamination status of soils proposed for reuse as part of cut/fill earthworks (e.g. as part of demonstrating suitability for use).
- characterising the contamination status of groundwater (e.g. to allow assessment of potential impacts to groundwater associated with reuse of materials as part of cut/fill earthworks).
- geochemical testing of the soils to assess the concrete classification.

Areas of tarmacadam (e.g. existing tracks) will require testing to determine the composition and concentration of coal tar present in the material.

The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel, where 10%-30% of homes could be recorded above the action level. A site-specific radon assessment should be undertaken to confirm the presence and classification of radon risk at the site.

Slope stability assessment may be required in the future, depending on cut/fill proposals. The geotechnical properties of the material that a slope will be created from and the proposed angle of a slope are required in order to undertake slope stability assessment.

THIS EXECUTIVE SUMMARY IS TO BE READ IN CONJUNCTION WITH THE REPORT TO WHICH IT RELATES.

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Instruction.....	1
1.2 Brief.....	1
1.3 Proposed Development.....	1
1.4 Related Assessments	2
1.5 Report Scope	2
1.6 Limitations	2
2.0 SITE INFORMATION	3
2.1 Location.....	3
2.2 General Area Context	3
2.3 Site Description	3
2.4 Western Parcel.....	3
2.5 Eastern Parcel.....	5
3.0 SITE HISTORY	7
3.1 Introduction	7
3.2 Site History.....	7
4.0 GEOLOGY, HYDROGEOLOGY, HYDROLOGY AND RADON.....	12
4.1 Introduction	12
4.2 Geology	12
4.3 Coal Mining	13
4.4 Mineral Mining and Ground Workings.....	13
4.5 Historical Borehole Logs	14
4.6 Hydrogeology	14
4.7 Hydrology	15
4.8 Radon.....	17
4.9 Unexploded Ordnance (UXO).....	17
5.0 ENVIRONMENTAL DATABASE SEARCH	18
5.1 Introduction	18
5.2 Infilled features.....	18
5.3 Waste	18
5.4 Hazardous Substances and Health & Safety.....	19
5.5 Environmental designations.....	19
5.6 Flooding	19
5.7 Historical Land Uses	20
5.8 Current industrial land uses	20

6.0 CONCEPTUAL SITE MODEL AND PRELIMINARY GROUND CONTAMINATION RISK ASSESSMENT	21
6.1 Overview	21
6.2 Current Site Usage and Proposed Development.....	21
6.3 Ground gas Conceptual Site Model	21
6.4 Conceptual Site Model	22
6.5 Ground Contamination Risk Assessment	23
7.0 PRELIMINARY GEOTECHNICAL ASSESSMENT – WESTERN PARCEL	28
7.1 Anticipated Ground Conditions	28
7.2 Potential Geotechnical Constraints to Development	28
7.3 Reservoir	29
7.4 Geochemistry	29
7.5 Enabling Works	29
7.6 Foundations	30
7.7 Piled Foundation Risk Assessment	30
7.8 Floor slabs, highways and Hardstanding	30
7.9 Infiltration Drainage	31
8.0 PRELIMINARY GEOTECHNICAL ASSESSMENT – EASTERN PARCEL	32
8.1 Anticipated Ground Conditions	32
8.2 Potential Geotechnical Constraints to Development	32
8.3 Geochemistry	33
8.4 Enabling Works	33
8.5 Foundations	33
8.6 Piled Foundation Risk Assessment	33
8.7 Floor slabs, highways and Hardstanding	33
8.8 Infiltration Drainage	33
9.0 GEOTECHNICAL RISK REGISTER	34
9.1 OVERVIEW	34
10.0 CONCLUSIONS AND RECOMMENDATIONS	45
10.1 Conclusions – Western Parcel	45
10.2 Conclusions – Eastern Parcel	46
10.3 Part 2A and Planning	47
10.4 Limitations	47
10.5 Uncertainties	48
10.6 Recommendations	48
11.0 REFERENCES	50
DRAWINGS	51

APPENDIX A – REPORT CONDITIONS	52
APPENDIX B – ENVIROCHECK AND GROUNDSURE REPORT	54
APPENDIX C – HISTORICAL MAPS	55
APPENDIX D – UNEXPLODED ORDNANCE.....	56
APPENDIX E – CIRIA C552 RISK METHODOLOGY	57

TABLES

Table 2.2-1 – Surrounding land uses	3
Table 3.2-1 – History of Western Parcel.....	7
Table 3.2-2 – History of Eastern Parcel.....	8
Table 3.2-3 – Summary of History of Surrounding Land within 250m.....	9
Table 4.4-1 – Mineral Mining and Ground Workings Western Parcel	13
Table 4.4-2 – Mineral Mining and Ground Workings Eastern Parcel	13
Table 4.5-1 – Historical borehole records	14
Table 4.6-1 – Aquifer Classification Western Parcel	14
Table 4.6-2 – Aquifer Classification Eastern Parcel	15
Table 4.7-1 – Hydrological Features Western Parcel.....	16
Table 4.7-2 – Hydrological Features Eastern Parcel.....	16
Table 5.3-1– Summary of Waste Facilities Western Parcel.....	18
Table 5.3-2– Summary of Waste Facilities Eastern Parcel	19
Table 5.6-1 – Summary of Flooding Potential	19
Table 6-1 – Preliminary Contamination Qualitative Risk Assessment for Western Parcel	24
Table 6-2 – Preliminary Contamination Qualitative Risk Assessment for Eastern Parcel	26
Table 9-1 – Risk Evaluation Matrix.....	34
Table 9-2 – Preliminary Geotechnical Risk Register for Western Parcel.....	35
Table 9-3 – Preliminary Geotechnical Risk Register for Eastern Parcel.....	40

DRAWINGS

B048805-TTE-00-XX-DR-U-0020/01 Site Location Plan

B048805-TTE-00-XX-DR-U-0021/03 Site Boundary

B048805-TTE-00-XX-DR-U-0022/04 Contamination Constraints Plan Western Parcel

B048805-TTE-00-XX-DR-U-0023/03 Contamination Constraints Plan Eastern Parcel

B048805-TTE-00-XX-DR-U-0024/03 Geotechnical Constraints Plan Western Parcel

B048805-TTE-00-XX-DR-U-0025/04 Geology Plan

B048805-TTE-00-XX-DR-U-0029/03 Geotechnical Constraints Plan Western Parcel

APPENDICES

APPENDIX A – REPORT CONDITIONS

APPENDIX B – ENVIROCHECK AND GROUNDSURE REPORT

APPENDIX C – HISTORICAL MAPS

APPENDIX D – UNEXPLODED ORDNANCE

APPENDIX E – CIRIA C552 RISK METHODOLOGY

ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
aOD	above Ordnance Datum
bgl	below ground level
BGS	British Geological Survey
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
C4SL	Category 4 Screening Levels
CIEH	Chartered Institute of Environmental Health
CLEA	Contaminated Land Exposure Assessment
CoC	Constituent of Concern
CSM	Conceptual Site Model
DEFRA	Department of Environment, Food and Rural Affairs
DQRA	Detailed Quantitative Risk Assessment
DTS	Desk Top Study
DRO	Diesel Range Organics
DWS	Drinking Water Standard
EA	Environment Agency (England)
EPH	Extractable Petroleum Hydrocarbons
EQS	Environmental Quality Standards
FOC	Fraction Organic Carbon
GPR	Ground Penetrating Radar
LOD	Limit Of Detection
LQM	Land Quality Management
NRW	Natural Resources Wales
OS	Ordnance Survey
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Poly Chlorinated Biphenyl
PPE	Personal Protective Equipment
ppm	parts per million
PRO	Petroleum Range Organics
SGV	Soil Guideline Values
SOM	Soil Organic Matter
SSV	Soil screening value
SVOC	Semi-Volatile Organic Compounds
TPH	Total Petroleum Hydrocarbons
TSV	Tier 1 Screening Values
VOC	Volatile Organic Compounds
VPH	Volatile Petroleum Hydrocarbons

1.0 INTRODUCTION

1.1 INSTRUCTION

Tetra Tech Ltd (Tetra Tech) was commissioned by Northern Gateway Development Joint Venture (the Client) to undertake a Geo-environmental and Geotechnical Desk Study for the southern section of the wider proposed Northern Gateway development, an area referred to by the design team as JPA1.2.

JPA1.2 is split into two parcels of land, one to the west and the other to the east of Heywood Old Road (A6045). Due to the size of the dataset required for the development area, for the purpose of description and database information review, this report assesses JPA1.2 as a Western Parcel and an Eastern Parcel, and as detailed by drawing B048805-TTE-00-XX-DR-U-0020 Site Location Plan and B048805-TTE-00-XX-DR-U-0021 Site Boundary Plan.

1.2 BRIEF

The initial brief¹ (in 2024) was to provide a Geo-environmental assessment for the Eastern and Western Parcels and Geotechnical assessment for the Western Parcel only, presented in a desk study report to:

- assess whether there was potential for ground contamination to be present which could significantly constrain the use of the site or give rise to the risk of significant environmental liability, and to undertake a desk study to assess contaminant linkages for both Eastern and Western Parcels.
- assess geotechnical risks which could significantly constrain the use of the site, or give rise to risk, and to undertake a desk study to assess these constraints for the Western parcel only.

The 2024 assessment was undertaken however the report was not issued.

The updated brief² (2025) was to update the drafted version of the desk study. The updates were as follows:

- Update drawings to reflect the variations to the client's amended assessment area boundary. This was an adaptation of the 2024 assessment area boundary.
- Review the areas not previously within the assessment area boundary for potential sources of contamination and, if any are identified, updating the desk study accordingly.
- Review the areas not previously within the assessment area boundary for potential geotechnical constraints/ opportunities and, if any are identified, update the desk study accordingly.
- Undertake a preliminary geotechnical constraints assessment for the Eastern Parcel.

The report has been prepared in general accordance and with reference to Environment Agency Land Contamination Risk Management (Environment Agency, 2025).

1.3 PROPOSED DEVELOPMENT

This assessment is for a proposed development to a low-rise residential end use.

¹ Northern Gateway – Consultancy Services for EIA and Outline Planning Applications: JPA 1.1 And 1.2 – Rev2. Dated 01 March 2024.

² Northern Gateway – JPA 1.2, Geo-environmental and Geotechnical Services. Issue 02. Dated 14 May 2025.

1.4 RELATED ASSESSMENTS

Tetra Tech (formerly WYG) undertook a Geo-environmental High-Level Constraints Review for the assessment of the site in 2019 on behalf of Northern Gateway Development Vehicle LLP for an area encompassing the Western Parcel and land further to the north and west. The historic report comprised:

- WYG 2019, Area GMA 1.2 Geo-environmental High-Level Constraints Review A104444-5-GHLCR1.2-V2.

It is recommended that this report is read in conjunction with the current document.

1.5 REPORT SCOPE

The area of interest has been separated into the Western Parcel, incorporating land to the west of Heywood Old Road (A6045), and the Eastern Parcel, incorporating land to the east of Heywood Old Road. This report includes the following elements:

- A record of the site visit and visual inspection walkover.
- A historical site and area review, primarily referring to past editions of Ordnance Survey Maps.
- A discussion of the general expected ground and groundwater conditions within the topographical and area context referring to our own geological and hydrogeological maps library.
- Details of an environmental database search of key relevant agencies, including Local and Statutory Authorities such as the Environment Agency.
- A ground contamination assessment discussing the results of the research above not only concerning potential on-site conditions/constraints and contamination but also an overview of the potential for migration onto or off-site with respect to the surrounding neighbouring sites.
- A baseline unexploded ordnance (UXO) risk assessment using freely available databases to classify the site with regards to UXO risk.
- Development of a preliminary conceptual site model.
- Preliminary qualitative ground contamination risk assessment (compliant with CIRIA 552 (CIRIA, 2001) methodology).
- Initial consideration of ground engineering requirements and the development of a geotechnical risk register.

1.6 LIMITATIONS

This report has been prepared by Tetra Tech Ltd on behalf of Northern Gateway Development Vehicle LLP in connection with the scope of the report as described in Section 1.5 above and taking into account the particular instructions and requirements set out in Tetra Tech Ltd fee proposal and Northern Gateway Development Vehicle LLP acceptance of same. It is not intended for and should not be relied on by any third party and no responsibility is undertaken to any third party save as provided for in (and in accordance with the terms of) any collateral warranty executed by Tetra Tech or any third party rights notice in favour of a named beneficiary (a "Collateral Warranty" or "Third Party Rights Notice").

Without prejudice to the provisions of any Collateral Warranty or Third Party Rights Notice, Tetra Tech Ltd accepts no duty or responsibility (including in negligence) to any party other than Northern Gateway Development Vehicle LLP, and disclaims all liability of any nature whatsoever to any such party in respect of this report.

This report is subject to the report conditions presented in Appendix A.

2.0 SITE INFORMATION

2.1 LOCATION

The site is centered around Heywood Old Road, Middleton, M24 4QR approximately 9km north of Manchester City Centre. The western parcel is immediately north of Junction 19 of the M60. The eastern parcel is immediately north of Rhodes. Both parcels currently comprise agricultural fields and farms. There are multiple small access roads with areas of juvenile to mature vegetation across site.

The site is approximately 62.5 hectares (Ha) in the Western Parcel, centered around 384190E, 405610N and 22Ha in the Eastern Parcel, centered around 384730E, 405550N.

Site location plans are presented as drawings B048805-TTE-00-XX-DR-U-0020 and Site Boundary Plans are shown in B048805-TTE-00-XX-DR-U-0021.

2.2 GENERAL AREA CONTEXT

Table 2.2-1 describes the surrounding land uses for the whole site area.

Table 2.2-1 – Surrounding land uses

Direction	Description
North	Agricultural land
East	Agricultural land and residential properties with Middleton beyond that.
South	M60 with Heaton Park beyond that to the southwest and residential properties to the southeast.
West	Agricultural land and residential properties with the town of Simister beyond that.

2.3 SITE DESCRIPTION

During the first phase of work A site walkover inspection was undertaken by Tetra Tech on 21st May 2024. A follow-up site walkover was conducted by Tetra Tech on 28th November 2025. The site description has been split into a Western Parcel and Eastern Parcel as per the Site Boundary Plan B048805-TTE-00-XX-DR-U-0021.

The site predominantly comprises open agricultural fields with small access roads and farm buildings. The Western Parcel is separated from the Eastern parcel by Heywood Old Road (A6045).

2.4 WESTERN PARCEL

2.4.1 Current Parcel Usage

The Western Parcel, shown as the blue line boundary on drawing B048805-TTE-00-XX-DR-U-0021 Site Boundary Plan, currently consists of undeveloped agricultural land with a number of access tracks. A collection of concrete farm buildings, potentially incorporating asbestos containing material (ACM) are present in the centre of the parcel and there are a few small areas along the track where construction material and spoil has been stockpiled. In the southwest of the parcel overhead electrical cables cross the parcel with associated pylons and cabin in the south and west.

Immediately adjacent to the assessment area boundary a reservoir/ large pond is present immediately east of central portion of the Western parcel, currently used as a fishing pond. The pond has been created by damming of a watercourse via an approximately 10m high embankment constructed at the southwestern end of the pond.

2.4.2 Access and Boundaries

The parcel was accessed off Heywood Old Road (A6045). A locked gate lead onto a track of tarmacadam and crushed limestone that lead to the farm buildings in the center and then on to the southern most pylon and its associated cabin. Another access point was noted further south off Heywood Old Road where a small barbed wire fence had been erected behind a gate.

The parcel is bound to the east by Heywood Old Road, with residential properties along this boundary. It is bound to the south by the M60 with Heaton Park beyond this and there is no suitable access to the parcel from this boundary. The parcel is bound to the west and north by agricultural fields and residential properties of Simister.

The parcel could be accessed off Simister Lane, which runs through the far north of the parcel, or off Blueball Lane which bounds the north of the parcel, however it is not recommended to use these roads for access as they are narrow and in poor repair.

2.4.3 Topography

The topography of the parcel is complex with several hills and a valley that runs northwest to southeast through the parcel. Ground level ranges from 120m above Ordnance Datum (aOD) in the far north to 75m aOD in the southeast.

A few smaller depressions were noted, interpreted as likely relating to historical sand pits.

2.4.4 Ground Cover and Vegetation

The parcel is predominantly covered by agricultural grassed fields, with hardstanding present around the collection of farm buildings in the center of the parcel. Tracks across the parcel appear to be a mixture of tarmac and limestone gravel.

At a couple of locations, it was noted that the land had been levelled with made ground, in some cases fairly recently as limited vegetation was present.

Vegetation across the parcel was predominantly grassland with possible spring lines and damp areas showing swamp grass and nettles.

The hedges around each field boundary generally comprised of blackthorn and hawthorn, with occasional large mature trees including several oaks.

Japanese Knotweed and Himalayan Balsam were identified in the parcel in two areas, one along the boundary with the flats in the southeast and the other along the fishing pond overflow.

2.4.5 Tanks

A below ground storage tank was noted close to the farm buildings, most likely a slurry tank.

No other above or below ground tanks were noted.

2.4.6 Utilities

High voltage overhead cables run from northwest to southeast through the southwest of the parcel, with three associated pylons. The cables are quite low in one location due to the topography and need to be considered with regards to plant movement.

Other lower voltage overhead cables were also noted in the west of the parcel.

A fire hydrant was noted in the pavement next to the entrance onto the parcel from Heywood Old Road.

2.4.7 Asbestos Containing Material

Potential asbestos containing materials (ACM) were noted as present within an area of made ground used for levelling along the track, and on the roofs of the farm buildings. Given the age of some of the farm structures, it is possible that there is ACM within some of the farm buildings. Assessment of asbestos associated with buildings and structures was not part of the scope of work.

2.4.8 Evidence of Contamination

No areas of gross contamination were observed during the walkover.

There is evidence of fill / made ground associated with the track and some areas of localized levelling in the fields.

There was a strong blue/green colour to the fish pond which may be the result of an algal bloom, potentially resulting from fertilizer run-off.

2.5 EASTERN PARCEL

2.5.1 Current Parcel Usage

The Eastern Parcel, shown as the red line boundary on drawing B048805-TTE-00-XX-DR-U-0021 Site Boundary Plan, comprises mainly agricultural fields, some of which at the time of writing this report had been recently ploughed (e.g., the western and southwestern fields). A section of Broadman Lane passes through the north of the parcel.

2.5.2 Access and Boundaries

The parcel can be accessed off Broadman Lane.

The north of the parcel is bound by Ellis Lane, which becomes Broadman Lane further to the east. The east of the parcel is bound by Broadman Lane with residential properties of Middleton beyond that. To the south are residential properties and to the west the parcel is bound by Heywood Old Road.

2.5.3 Topography

The topography of the parcel is complex with a number of valleys but the parcel predominantly falls towards Heywood Old Road. The highest point is around 112m aOD in the northeast and the lowest around 72m aOD in the southwest.

2.5.4 Ground Cover and Vegetation

The parcel is predominantly covered by agricultural grassed fields. Mature vegetation comprising trees and bushes/hedgerows are recorded on field boundaries.

2.5.5 Tanks

No above or below ground tanks were observed, however, there was a tank possibly associated with feeding troughs located at the southeastern corner of the site based on historical mapping (refer to Table 3.2-2 Section 3.2.2).

2.5.6 Utilities

A row of manhole covers was noted running along the base of a shallow valley in the northern part of the parcel, anticipated to relate to a stormwater. The underground stormwater channel is approximately 2m deep and 2m wide. No other utilities were noted on the parcel.

2.5.7 Asbestos Containing Material

No potential ACM were observed during the walkover.

2.5.8 Evidence of Contamination

A localised area of made ground was identified during the walkover, containing broken pieces of glazed pottery. Domestic waste from fly tipping was observed near the Heywood Old Road public footpath entrance.

3.0 SITE HISTORY

3.1 INTRODUCTION

The historical development of the site and surrounding area has been assessed using information available from extracts of historical Ordnance Survey (OS) maps from the previously undertaken WYG report presented in Appendix B, and from the Groundsure report commissioned for the Eastern parcel, also present in Appendix B.

In the context of the summary of historical development of the surrounding area, the descriptions are split based on the Western Parcel and the Eastern Parcel on drawing B048805-TTE-00-XX-DR-U-0021 Site Boundary Plan and limited to within approximately 250m of the site as a whole unless specified in the following section.

3.2 SITE HISTORY

3.2.1 Site Summary

The site's history describes primarily agricultural land use from at least 1849 with farmsteads and multiple small scale sand/gravel quarries recorded across site. Numerous relatively small former quarries were identified from historical maps.

Farm buildings are currently present along the main access track off Heywood Old Road and through the Western parcel of the site.

The development of residential properties along the southeast boundary of the site by 1955 and the M60 motorway adjacent to the southwest of the Western Parcel by 1974 mapping may have caused overspill of made ground onto site.

The potential contamination sources identified as part of the site history and site walkover are shown on the contamination constraints drawings B048805-TTE-00-XX-DR-U-0022 Contamination Constraints Plan for the Western Parcel and B048805-TTE-00-XX-DR-U-0023 Contamination Constraints Plan for the Eastern parcel.

3.2.2 Site History

The following tables, Table 3.2-1 and Table 3.2-2, below provide a summary of each section's history following a review of available OS mapping coverage dating back to 1849 and historical aerial imagery for the site.

Table 3.2-1 – History of Western Parcel

Feature	Map Years	Location onsite	Notes (May impact other sections)
Agricultural fields with several field boundaries	1849-Present	The number of fields within the site boundary remain relatively consistent across the map editions.	Higher Fields labelled as a small holding/farm throughout mapping
Farm building	1849-Present	East boundary	Annotated 'Baguley Brow Farm'.
Stream	1849-Present	Running northwest to southeast and culverted under the road in the far southeast.	-
Stream	1894-Present	Running from the south offsite to the southeast.	Reduces in length by 1894 mapping. Mapped as Rises on 1923 mapping. Mapped as Issues and Sinks on 1999 mapping.

Northern Gateway JPA1.2
Phase 1 Geo-environmental and Geotechnical Desk Study Report

Feature	Map Years	Location onsite	Notes (May impact other sections)
Several Ponds	1849-Present	Number of small ponds across the site.	The majority of these do not appear to have been infilled. One near the southwest boundary potentially infilled by 1974 mapping.
Gravel Pit	1849 only	Present in the centre of the site	Potentially infilled as not present by 1894 mapping.
Sand Pit	1849 only	Present in the northwest of the site.	Potentially infilled as not present by 1894 mapping.
Old Sand Pit	1894-Present	Two excavations present in the southeast.	Depressions still present on recent mapping and present during walkover.
Reservoir	1894-Present	Outside boundary near the centre east of the site.	Earthen dam constructed to the southwest and a small overflow running southwest to join with the stream. Currently a fish pond.
Excavation	1894-1955	Northeast boundary	Potentially infilled as not present by 1965 mapping.
Excavation	1894-1983	North boundary	Potentially infilled as not present by 1999 mapping.
Electrical Pylon	1932-Present	Three pylons mapped along the southwest.	By 1974 mapping the three onsite pylons have moved locations but remain within the site running parallel to the southwest boundary.
Earthworks	1974-Present	Southwest boundary	Reprofiling of the slope of the site associated with the development of the M60 motorway.
Farm Buildings	1999-Present	Centre	Annotated 'Heaton Farm' consisting of farm buildings, residential property and associated track.

Table 3.2-2 – History of Eastern Parcel

Feature	Map Years	Location onsite	Notes (May impact other sections)
Open fields with numerous small holdings and farms	1848-Present	The number of fields within the site boundary remain relatively consistent across the map editions.	'Little Nook' farm house in the southwest of the site. Several farm buildings along Bagley Brow road.
Bagley Brow road	1848-1980	Running from north to southwest.	Annotated 'Foot Path' by 1909 mapping. No longer present by 2001 mapping.
Un-named Road	1848-Present	In the north of the site, running east to west joining Bagley Brow and Heywood Old Road.	Annotated 'Boardman Lane' on modern mapping.
Sand Pit	1848 only	South	Potentially infilled as not present by 1891 mapping.
Sand Pit	1848-1965	West	Annotated 'Old Sand Pit' by 1891 mapping. Marked as swamp by 1965 mapping. No longer present by 1974 mapping.

Northern Gateway JPA1.2
Phase 1 Geo-environmental and Geotechnical Desk Study Report

Stream	1848-Present	Running from the centre of the site to the southwest.	Spring noted on 1965 mapping. Terminating in the pond by 'Little Nook'
Pond	1848-1938	Southwest near 'Little Nook'	No longer present by 1954 mapping, replaced by tank.
Well	1891-1893	Northwest	No longer present by 1909 mapping.
Well	1891-1893	West	No longer present by 1909 mapping.
Pump	1891-1893	Southwest	No longer present by 1909 mapping.
Stream	1909-Present	Running adjacent to the footpath from centre to southwest.	-
Cuttings	1932-Present	Land bounding Heywood Old Road appears to have been reprofiled.	On visual inspection these areas appear to have been given a stone wall facing.
Stream	1954-Present	Appearing in the west near Bardley Hall Cottages and running west.	-
Tank	1954-1955	In the far southeast corner.	No longer present by 1965 mapping. Possibly associated with feeding troughs.

3.2.3 Surrounding History

Potentially contaminative land uses within 250m of the site boundary are summarised in Table 3.2-3 below.

Table 3.2-3 – Summary of History of Surrounding Land within 250m

Feature	Map Years	Location Relative to which Section Boundary	Notes (May impact other sections)
Farm Buildings	1849-1955	10m southwest of the Western Parcel	Along Simister Lane. Annotated 'Old Hall'. No longer present by 1965 mapping.
Farm Buildings	1849-1955	Encompassed in the north of the Western Parcel	Annotated 'Cambashaw'. No longer present by 1983 mapping.
Sand Pit	1849 only	150m north of the Western Parcel	Annotated 'Old Sand Pit'. No longer present by 1894 mapping.
Sand Pit	1849-1894	200m north of the Western Parcel	Annotated 'Old Sand Pit'. No longer present by 1910 mapping.

Northern Gateway JPA1.2
Phase 1 Geo-environmental and Geotechnical Desk Study Report

Feature	Map Years	Location Relative to which Section Boundary	Notes (May impact other sections)
Bleach Works	1849-1923	200m south of the Western Parcel	Annotated 'Lands End Bleach Works'. Annotated 'disused' by 1923 mapping. No longer present by 1932 mapping.
Bleach Works	1891-1980	10m south of the Eastern Parcel	Annotated 'Bleach and Dye Works' on 1891 mapping. Associated Tanks adjacent the Eastern parcel southern boundary by 1907 mapping. Annotated 'Chemical Works' by 1954 mapping. No longer present by 2001 mapping.
Reservoir	1891-1955	10m south of the Eastern Parcel	Appears to be disused by 1969 mapping with trees mapped within it.
Old Sand Pit	1891-Present	200m northeast of the Eastern Parcel	With associated pond.
Grave Yard	1893-Present	100m southeast of the Eastern Parcel	Expanded by 1932 mapping and now 70m from the boundary.
Sand Pits	1894-1965	10m southeast of the Western Parcel	Appears as a pond from 1910 mapping. Replaced by residential properties by 1983 mapping.
Reservoir	1894-Present	Near the centre east of the Western Parcel.	Earthen dam constructed to the southwest and a small overflow running southwest to join with the stream. Currently a fish pond.
Sewage Works with associated filter beds	1909-1952	150m south of the Western Parcel	Most of the works appear to be landfilled by 1952 mapping, with the remainder no longer present by 1958 mapping.
Allotment Gardens	1932-1967	Adjacent southeast of the Eastern Parcel	No longer mapped by 1974 mapping.
Sand Pits	1952-1959	Adjacent southeast of the Western Parcel	Replaced by residential properties by 1969 mapping.
Residential development	1952-Present	60m southeast of the Western Parcel	Adjacent southeast by 1977 mapping.
Heywood Old Road straightened and residential development present along it	1955-Present	Adjacent along Heywood Old Road	-

Northern Gateway JPA1.2
Phase 1 Geo-environmental and Geotechnical Desk Study Report

Feature	Map Years	Location Relative to which Section Boundary	Notes (May impact other sections)
M60 Motorway with associated earthworks	1965-Present	Adjacent southwest of the Western Parcel	-
Residential properties	1965-Present	Northeast of the Western Parcel	Along Simister Lane.

4.0 GEOLOGY, HYDROGEOLOGY, HYDROLOGY AND RADON

4.1 INTRODUCTION

Details of the geology underlying the site have been obtained from the following sources and are shown on drawing B048805-TTE-00-XX-DR-U-0025.

Geology Plan:

- BGS 1:50,000 Map, Sheet No. 85 Manchester Bedrock and Superficial Deposits
- BGS 1:10,000 Map, Sheet No. SD80NW Manchester Bedrock and Superficial Deposits
- Coal Authority Interactive Viewer, accessed May 2024
- BGS website and Geoindex (British Geological Survey, 2021), accessed May 2024.
- Environmental database (Envirocheck Report 202263147_1_1) presented in Appendix B
- Environmental database (Groundsure Report GS-UJV-EOF-ETA-HZ1) presented in Appendix B.
- BR211 Indicative Radon Mapping (Scivyer, 2015).
- MAGIC MAP online interactive mapper.
- BGS Borehole Data

4.2 GEOLOGY

Below is a summary of the recorded geology, based on the sources listed in Section 4.2, which is also shown on drawing B048805-TTE-00-XX-DR-U-0025 Geology Plan.

4.2.1 Made Ground

Made ground and Infilled ground is not mapped onsite. A small area of landfilling is noted as present in the far north of the site.

4.2.2 Superficial Geology

The geological map (Sheet 85) indicates that superficial strata are anticipated to be present across the site. In the main these comprise Morainic Deposits described as poorly sorted sand, gravel and silty clay with a moundy topography. They have been referred to in this report as 'Hummocky (moundy) Glacial Deposits.

Head Deposits (clay, silt, sand and gravel) are mapped as present along the stream that runs northwest to southeast through the Western Parcel and in the southwest of the Eastern Parcel.

The geological map indicates that Till, comprising clay to sandy clay, unsorted, with gravel, cobbles and boulders is anticipated to be present beneath the other superficial deposits.

There are several small depressions with ponds at their base that appear to be historic sand pits.

Given the variable topography at the site there is potential for variation in both the lateral and horizontal distribution of superficial deposits and for variation in their composition.

4.2.3 Bedrock Geology

The bedrock geology comprises primarily the Pennine Lower Coal Measures Formation across the whole of the Eastern Parcel and across the northeast of the Western Parcel. The Pennine Middle Coal Measures Formation (mudstone, siltstone and sandstone) is present across the centre of the Western Parcel. These Formations comprise mudstone and siltstone with sandstone and subordinate seatearth beds and thin coal seams.

In the southwest of the western parcel, the Chester Formation (sandstone) is present with a small area in the southeast where the Manchester Marls Formation (mudstone) outcrops.

The geological map (Sheet 85) indicates rockhead is at approximately 60m OD in the south of the parcels, rising up to approximately 70m OD in the north. The southern boundary of the parcels is located in the vicinity of a buried valley in the rockhead, and consequently there is potential for rockhead to be at <60m OD in those areas.

4.2.4 Geological Features

The Bradley Fold Fault runs across the site with downthrow to the south, separating the Pennine Middle Coal measures from the stratigraphically younger Chester Formation.

A glacial channel is mapped as being present in the vicinity of the southern boundary of the parcels. Consequently, superficial deposits may be thicker in the south of each parcel of land relative to other parts of the parcels.

4.3 COAL MINING

The site is within a Coal Mining Reporting Area but it is not within a Development High Risk Area defined by the Mining Remediation Authority. No mine entries or outcrops are present on or close to the site in data sets available from the Mining Remediation Authority and therefore the risk to the site from historical coal mining is considered low.

4.4 MINERAL MINING AND GROUND WORKINGS

Table 4.4-1 and Table 4.4-2 summarise the likely Mineral Mining and Ground Workings relevant to the Site with regards to the Western and Eastern Parcels of land respectively, and limited to within approximately 250m of their boundaries.

Table 4.4-1 – Mineral Mining and Ground Workings Western Parcel

Feature	Location	Notes
Old Hall Sand Pit	Onsite southeast	Opencast Ceased
Old Hall Gravel Pit	Onsite south	Opencast Ceased
Hazel Hillocks Sand Pit	Onsite southwest	Opencast Ceased
Bow Lee Sand Pit	170m north	Opencast Ceased
Bow Lee Sand Pit	240m north	Opencast Ceased

Table 4.4-2 – Mineral Mining and Ground Workings Eastern Parcel

Feature	Section	Notes
Hanging Birch Sand Pit	Onsite southwest	Opencast Ceased

4.5 HISTORICAL BOREHOLE LOGS

BGS logs have been referred to for information and are displayed in Table 4.5-1 below. BGS borehole records are publicly available and have been used for information only. None of the borehole records were located on site, however there are borehole records within 250m of the site boundary.

Table 4.5-1 – Historical borehole records

Borehole Reference (Year drilled)	Location	Summary
SD80NW359 (1989)	20m southwest	Topsoil to 0.20mbgl. Firm grey sandy very clayey with occasional pebbles, sandstone fragments, cinders and traces of brick – FILL to 2.40mbgl. Medium dense grey clayey silty sand with clay inclusions, traces of cinder and vegetation – FILL to 3.70mbgl. Stiff/hard grey sandy silty CLAY with occasional sand and silty inclusions and partings, pebbles, sandstone, siltstone and mudstone fragments to 10.00mbgl. Water strike 6.9mbgl rising to 5.0mbgl after 15 minutes.
SD80SW86 (1980)	70m south	Topsoil and rootlets to 0.50mbgl. Firm slightly friable yellow brown sandy silty CLAY with traces of topsoil to 1.00mbgl. Stiff yellow brown slightly mottled grey silty slightly sandy CLAY with a little gravel and partings of sand to 4.00mbgl. Medium dense red brown silty fine to medium SAND with a little fines to 6.00mbgl. Medium dense red brown fine to medium SAND with some fines and a little gravel and occasional coal fragments to 8.00mbgl. Medium dense red brown uniformly graded medium SAND with trace fines to 10.50mbgl. Medium dense well graded subrounded GRAVEL and COBBLES with a little red brown fine sand and a boulder at 10.50mbgl. No groundwater strikes.
SD80NE209 (1990)	160m east	Made ground (thin layer of tarmac over cemented ashes/concrete-type material) to 0.30mbgl. Brown silty fine to medium grained SAND to 1.00mbgl. No groundwater strikes.

4.6 HYDROGEOLOGY

Table 4.6-1 and Table 4.6-2 describe the Aquifer classification for the strata found in the Western Parcel and the Eastern Parcel of the site and should be read in conjunction with drawing B048805-TTE-00-XX-DR-U-0025 Geology Plan.

Table 4.6-1 – Aquifer Classification Western Parcel

Feature	Superficial	Bedrock
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Aquifer Classification	Secondary A (Glaciofluvial Sheet Deposits). Secondary Undifferentiated (Hummocky Glacial Deposits and Head).	Secondary A (Pennine Middle Coal Measures – Majority of the site). Principal (Chester Formation Sandstone – south of the site). Secondary B (Manchester Marls Formation – southeast).
Groundwater Vulnerability	Medium vulnerability Secondary Aquifer in the east. High vulnerability Secondary Aquifer in the west.	Low vulnerability Principal Aquifer. Low vulnerability Secondary Aquifer.
Groundwater Source Protection Zone	None within 1km.	None within 1km.
Licensed Groundwater Abstractions	None	None
Groundwater Hydraulic Gradient	Anticipated to be towards the south.	

Table 4.6-2 – Aquifer Classification Eastern Parcel

Feature	Superficial	Bedrock
Aquifer Classification	Secondary Undifferentiated (Hummocky Glacial Deposits and Head).	Secondary A (Pennine Lower Coal Measures).
Groundwater Vulnerability	Medium vulnerability Secondary Aquifer across the majority of the site. Medium vulnerability Secondary Aquifer in the far south.	Low vulnerability Secondary Aquifer.
Groundwater Source Protection Zone	None within 1km.	None within 1km.
Licensed Groundwater Abstractions	None	None
Groundwater Hydraulic Gradient	Anticipated to be towards the south.	

4.7 HYDROLOGY

Details of the hydrology of the Western Parcel have been obtained from the Environmental Database Envirocheck Report 202263147_1_1 presented within Appendix B and summarised in Table 4.7-1 below.

Table 4.7-1 – Hydrological Features Western Parcel

Feature	On Site	Off Site (<250m)
Watercourse	A stream runs from the northwest to the southeast.	A pond formed by damming the watercourse is present near the centre east of the site with an overflow draining to the southwest and joining with the stream.
Surface Water Abstractions	None	None
Discharge to Surface Water	One in the southeast. Mr Broxton Domestic Property Reference: 016992302 Issued: 1 st October 1996 Revocation date: Not Supplied Discharge Type: Sewage Discharges – Final/Treated Effluent – Not Water Company Receiving Water: Surface water drain to River Irk.	Eight within 250m. Nearest 30m east. Mr Roy Lowe Domestic Property Reference: 0172/1714 Issued: 5 th May 1972 Revocation date: Not Supplied Discharge Type: Sewage Discharges – Final/Treated Effluent – Not Water Company Receiving Water: Langley Brook
Flood Risk	Flood Zone 1	

Details of the hydrology of the area have been obtained from the Environmental Database Groundsure Report GS-UJV-EOF-ETA-HZ1 presented within Appendix B and summarised in Table 4.7-2 below.

Table 4.7-2 – Hydrological Features Eastern Parcel

Feature	On Site	Off Site (<250m)
Watercourse	Three streams onsite, all classified as 'Inland river not influenced by normal tidal action' and all flow from northeast to southwest. Area of Marsh, classified as 'An area that is predominantly waterlogged by freshwater' in the southwest of the parcel. A 'spring' is noted on Ordnance Survey mapping located towards the centre of the parcel.	Waters onsite drain to the River Irk (340m southeast).
Surface Water Abstractions	None	None
Discharge to Surface Water	None	Three within 250m. Nearest 67m southwest 241 Heywood old Road Effluent Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Permit Number: 016992302 Permit Version: 1 Receiving Water: Surface Water drain to River Irk

	Issue date: 01/10/1996
Flood Risk	Flood Zone 1

4.8 RADON

Radon data at a scale of 1km grid squares indicates the following:

- The Western Parcel is primarily in an area of elevated radon potential with 10% to 30% of properties at or above the Action Level.
- The Eastern Parcel is primarily in an area of elevated radon potential with 10% to 30% of properties at or above the Action Level.

Groundsure report GS-UJV-EOF-ETA-HZ1 presented within Appendix B provides further detail and indicates that the area of 10% - 30% affected is associated with the southwest of the Eastern Parcel and a southeast – northwest orientated strip running through the centre of the Western Parcel. The alignment of the area of highest radon potential in both parcels aligns with the distribution of the Head Deposits on the geological map suggesting these are the likely source of the radon. The radon derives from the natural radioactive decay of minerals in the deposit. Radon is quickly diluted in the atmosphere however, if it accumulates in enclosed spaces such as in basements, buildings, caves, mines and tunnels it may reach high concentrations, and may pose a health hazard from the inhalation of radioactive particles.

This will need to be taken into consideration if the Head Deposits are cut and used elsewhere on the site as engineered fill. The remaining parts of both parcels are indicated to have a radon potential of <1% of properties affected.

Radon protection measures may be required in new buildings depending on the material they are underlain by.

Should radon protection measures be required they will likely comprise a radon barrier positioned over the floor of the structure and linked to cavity trays at the edges. Supplementary protection is also provided by locating underfloor vents on two or more sides of the underfloor space. Although underfloor ventilation reduces the amount of radon, which the radon barrier provided in the floor construction has to exclude, it should not be looked upon as a primary defence, in line with BR211 guidance.

4.9 UNEXPLODED ORDNANCE (UXO)

Based on freely available mapping data from Zetica UXO (Zetica UXO, 2024), the site is located within a low-risk area with regards to unexploded ordnance (UXO). A 'Low Risk' area is defined by Zetica as:

'Low risk regions are those with a bomb density of up to 10 bombs per 1000 acres. These areas are considered to have a significant but low unexploded bomb risk. In general, further action to mitigate the risk is considered prudent, although not essential. Care is required when assessing the risk for specific sites where the risk may be higher because of local wartime activity'.

5.0 ENVIRONMENTAL DATABASE SEARCH

5.1 INTRODUCTION

Regulatory authority information relevant to the site and its surroundings has been obtained from review of information presented in the previously acquired Envirocheck report for the Western Parcel (Appendix B) and a Groundsure Report for the Eastern Parcel (Appendix B). Distances stated are approximate and are taken from the boundary of the site to the database recorded entries.

The following summary is generally limited to locations within 250m of the site boundaries unless it is considered that installations or activities beyond that range could potentially have an impact on the site or be affected by the redevelopment of the site.

5.2 INFILLED FEATURES

The absence or presence of infilled features at or within 250m of the wider site has been summarised in Section 4.2.1 for Made Ground and Section 4.4 for ground workings. The locations of the Made Ground/infilled deposits with respect to the sections are described there.

5.3 WASTE

The presence of waste facilities at or within 250m of the site boundary have been summarised in Table 5.3-1 for the Western Parcel and in Table 5.3-2 for the Eastern Parcel.

Table 5.3-1– Summary of Waste Facilities Western Parcel

Facility Type	On Site	Off Site (250m)
Historical Landfill (EA/NRW records)	No	Bowlee Sand Quarry, Bluebell Lane Waste Type: Inert and Industrial Waste Site Reference: EAHLD30185 10m north
		Heaton Mills Printing Company Limited, land at Kelvin Avenue Waste Type: Household Waste Site Reference: EAHLD18072 130m south
Licensed Waste Management facilities	No	M&M oils Ltd, 124 Simister Lane, Prestwich Site category: Physical Treatment Facilities License Number: 53602 160m northwest

Table 5.3-2– Summary of Waste Facilities Eastern Parcel

Facility Type	On Site	Off Site (250m)
Historical Landfill (EA/NRW records)	No	Land at Kelvin Avenue, Rochdale Waste Type: Household Site Reference: RD/LIC/133/77/P2,D065 231m south
Historical Waste Sites	No	Scrap Metal Yard 244m southeast
Licensed Waste Management facilities	No	No

5.4 HAZARDOUS SUBSTANCES AND HEALTH & SAFETY

No Control of Major Accident Hazard or Hazardous Substance Storage has been identified for the site as a whole or within 250m of the boundary.

5.5 ENVIRONMENTAL DESIGNATIONS

The site is part of an area of greenbelt known as Merseyside and Greater Manchester under both Rochdale and Bury local Authorities.

The site falls within a Site of Special Scientific Interest Impact zone, therefore any aviation development will require further consultation.

5.6 FLOODING

The absence or presence of flooding potential at the site is summarised in Table 5.3-1 for the Western Parcel and the Eastern Parcel.

Table 5.6-1 – Summary of Flooding Potential

Designation	Presence	Detail
Risk of Flooding from Rivers and Sea	No	-
Historical Flood Events	No	-
Flood Defences	No	-
Area Benefiting from Flood Defences	No	-
Flood Storage Areas	No	-
Flood Zone 2	No	-
Flood Zone 3	No	-
Groundwater Flooding	Yes	Limited potential for groundwater flooding to occur in both Western and Eastern Parcels. Potential for groundwater flooding of property situated below ground level in both Western and Eastern Parcels.
Surface Water Flooding	No	-

5.7 HISTORICAL LAND USES

The potentially contaminative historical land uses at or within 250m of the wider site boundary have been summarised on drawings B048805-TTE-00-XX-DR-U-0022 Contaminant Constraints Plan Western Parcel and B048805-TTE-00-XX-DR-U-0023 Contaminant Constraints Plan Eastern Parcel with a full list detailed in the environmental reports in Appendix B.

The key contaminative historical land uses indicated on the historical maps can be summarised by:

- Agricultural use (predominantly pastoral) present across the whole site.
- Sewage Works and Bleach Works with associated landfilling present around 200m south of the whole site.
- Various ground workings, sand and gravel pits on and offsite of the whole site.
- Farm buildings with associated tanks within the Western Parcel.
- Overspill and earthworks from Motorway construction within the southwest of the Western Parcel.

5.8 CURRENT INDUSTRIAL LAND USES

The potentially contaminative current land uses shown on historical maps at or within 250m of the wider site boundary have been summarised below:

- Lancashire Vehicle Sales adjacent to the northeast boundary of the Western Parcel.
- Metal Stitching Services Ltd adjacent to the western boundary of the Western Parcel.
- Car Shop Megastore present 200m south of the Eastern parcel.

6.0 CONCEPTUAL SITE MODEL AND PRELIMINARY GROUND CONTAMINATION RISK ASSESSMENT

6.1 OVERVIEW

The information presented in the previous sections of this report have been collated and evaluated to establish an initial qualitative risk assessment for the Northern Gateway JPA1.2 site. A preliminary conceptual model of the site has been generated based on information derived from this assessment, supplemented by information attained during the Tetra Tech site walkover.

Both the Western and Eastern Parcels have been considered with regard to current UK legislation and guidance, namely Part 2A of the Environmental Protection Act 1990 and the Contaminated Land (England) Regulations 2006, as amended, and in accordance with current UK good practice guidelines (for example BS10175:2011).

In general, ground contamination can occur through several causes, particularly from historical operations and activities. Contamination can result from either on-site sources or from on-site migration from off-site sources, leading to long term liabilities under recent legislation for any site owner.

For a risk of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- Source, i.e., a substance that is capable of causing pollution or harm;
- Pathway, i.e., a route by which the contaminant can reach a target; and
- Receptor (target), i.e., something which could be adversely affected by the contaminant.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

6.2 CURRENT SITE USAGE AND PROPOSED DEVELOPMENT

This assessment is undertaken on the basis of future low rise residential end use.

6.3 GROUND GAS CONCEPTUAL SITE MODEL

A site can be potentially be significantly affected by ground gas, principally methane and carbon dioxide, if it:

- Is located within 250m of a historical landfill.
- Is underlain by made ground containing a significant proportion of potentially degradable material.
- Is underlain by deep made ground (e.g. from backfilling of former workings).
- Is underlain by shallow coal workings.

An historical landfill is mapped as being present extending into the northernmost tip of the Western parcel and extending off site towards the northwest. The shape of the landfill area suggests the portion adjacent to the Western parcel was an access route from Heywood Old Road to the landfill area located approximately 140m northwest of the northern boundary of the Western Parcel at its closest point. Till is mapped as being present beneath the historical landfill and the site boundary, the cohesive nature of which will limit lateral migration of ground gas. The distance and the cohesive nature of the superficial deposits means there is unlikely to be a viable migration pathway such that ground gas from the landfill would pose a significant contaminant linkage to proposed end users. Therefore, ground gas from the historical landfill has not been considered further.

Within both the Western Parcel and Eastern Parcel, areas that appear to be associated with localised extraction of sand/gravel deposits are present. These are all relatively small areas with a long axis <50m and predominantly <30m. Where they have been infilled they are unlikely to be a significant source of ground gas based on the following:

- Their relatively small surface area and relatively shallow depth (<5m deep).
- They are unlikely to have been filled with material containing a significant proportion of potentially degradable material.
- Natural deposits e.g. from accumulation of organic matter are unlikely to degrade at a sufficient rate to generate significant volumes of ground gas.

Therefore, infilled ponds and former workings are not considered to form a significant contaminant linkage and the ground gas from these features has not been considered further.

6.4 CONCEPTUAL SITE MODEL

The key source, pathway and receptor model is outlined below within the context of the residential use of the site.

6.4.1 Potential Sources of Contamination

As a predominantly greenfield site there are limited potential sources of contamination associated with the site.

The main potential sources of contamination have been identified as potential infilling following localised, historical extraction of sand/gravel and localised deposits of made ground associated with farming activities e.g. to create level areas.

The source of the material associated with construction of the embankment to form the reservoir, now fish pond, immediately east of the Western parcel is not known. However, given that it was constructed in the late 1800s it is unlikely that would be a significant source of contamination.

Potential sources associated with each Parcel have been described below and locations are indicated on the contamination constraint plans B048805-TTE-00-XX-DR-U-0022 (Contamination Constraints Plan Western Parcel) and B048805-TTE-00-XX-DR-U-0023 (Contamination Constraints Plan Eastern Parcel):

On-site Sources

- Localised areas of Made Ground – potential for heavy metals (associated with ash and clinker), poly aromatic hydrocarbons (PAH) and asbestos containing material (ACM) in areas of infilling, levelling, and overspill from earthworks along the southern boundary of the Western parcel.
- Hydrocarbon/contaminants storage, use and potential spills/leaks associated with farming land use.
- Use of pesticides/herbicides across farmland.

Off-site Sources

- Historical Sewage and Bleach Works (migration of volatile contaminants via groundwater).

6.4.2 Potential Contaminant Pathways

The following contaminant pathways are considered to be potentially active based on the current site use and proposed development and are shown on the contamination constraints plans.

Human Exposure Pathways

- Direct dermal contact or ingestion of soils, or inhalation of dust and/or vapours (i.e. human interaction with surface and sub-surface materials).

Environmental Pathways

- Leaching and horizontal or vertical migration through the unsaturated ground, either through permeable sub-surface materials and/or preferential pathways;
- Lateral and vertical migration of groundwater through permeable sub-surface materials and/ or preferential pathways;

- Leaching to surface water run-off/drainage.
- Plant root uptake

6.4.3 Potential Receptors at Risk

The following potential receptors have been identified, numbered and are shown on the contamination constraints plans.

Human Health

- Future site users (residential);
- Construction / Maintenance Workers (during and post construction); and
- Adjacent site users (residential/commercial/industrial).

Wider Environment

- Underlying Superficial Secondary A Aquifer (Glaciofluvial Sheet Deposits). Secondary Undifferentiated Aquifer (Head deposits).
- Underlying Bedrock Aquifers, Secondary A (Pennine Middle Coal Measures) across the majority of the site, Principal Aquifer (Chester Formation Sandstone) in the southwest. Secondary B Aquifer (Manchester Marls Formation) in the southeast.
- Building Infrastructure and supply pipes
- Adjacent Properties; and
- Surface Waters
- Plants in areas of landscaping e.g. gardens

6.5 GROUND CONTAMINATION RISK ASSESSMENT

The source, pathway, and receptor linkages are presented with a qualitative risk assessment in the following tables.

The risk assessment assesses potential risks to identified receptors in relation to the existing site setting and the proposed development. CIRIA C552 methodology has been used for the risk assessment and is presented in Appendix [G](#).

Table 6-1 – Preliminary Contamination Qualitative Risk Assessment for Western Parcel

This matrix is based on CIRIA C552 risk evaluation methodology, definitions for risk ratings is presented in Appendix F						
Source	Pathway	Receptor	Consequence of risk being realised	Probability of risk being realised	Risk Classification	Justification & Potential Risk Management (if required)
Ground Conditions – Made Ground on site, areas of potential infilling and development overspill (Heavy metals, PAH, ACM)	Dermal contact, ingestion and/or inhalation of or dusts	Human Health – Future site users / residents and construction workers	Medium	Low	Moderate / Low	Localised areas of made ground associated with infilling and levelling are likely to present. Significant contamination, if present, is unlikely to be laterally or vertically widespread. The embankment of the fish pond has been present for >100 years. Significant contamination representing a risk to human health is unlikely to be present. The embankment is proposed to remain in-situ as part of proposed development limiting the potential for future exposure. Limited evidence of contaminants encountered during site walkover. Potential risks to construction workers can be mitigated through working practices.
	Leaching to groundwater, drainage and lateral / vertical migration.	Surface Water (Onsite Stream and fish pond)	Medium	Unlikely	Low	Localised areas of made ground associated with infilling and levelling are likely to present. Significant contamination, if present, is unlikely to be laterally or vertically widespread. Material will have been subject to leaching since it was placed therefore is unlikely to remain a significant source of contamination. No surface or groundwater water abstractions within 1km. No further assessment required unless significant mobile contamination identified during design phase or construction phase.
		Secondary A (Superficial) Principal (Bedrock)	Medium	Unlikely	Low	
Hydrocarbons on site from agricultural storage and use. (hydrocarbons)	Dermal contact, ingestion and/or inhalation of or dusts	Human Health – Future site users / residents and construction workers	Medium	Unlikely	Low	No significant historical or existing sources of hydrocarbons identified. While spills may have occurred they are likely to have been localised and involved relatively small volumes and therefore contamination is unlikely to be laterally or vertically widespread. Natural attenuation will have occurred. Potential risks to construction workers can be mitigated through working practices. No further assessment required unless significant mobile contamination identified during design phase or construction phase.
	Leaching to groundwater,	Surface Water	Medium	Low	Moderate / Low	No significant historical or existing sources of hydrocarbons identified. While spills may have occurred they are likely to have been localised

This matrix is based on CIRIA C552 risk evaluation methodology, definitions for risk ratings is presented in Appendix F						
Source	Pathway	Receptor	Consequence of risk being realised	Probability of risk being realised	Risk Classification	Justification & Potential Risk Management (if required)
	drainage and lateral / vertical migration.	(Onsite Stream and fish pond)				and involved relatively small volumes and therefore contamination is unlikely to be laterally or vertically widespread. Natural attenuation will have occurred.
		Secondary A (Superficial) Principal (Bedrock)	Medium	Unlikely	Low	Geological map indicates cohesive Till is likely to present which will act to constrain downward migration. No surface or groundwater water abstractions within 1km. Stream onsite and Principal Aquifer beneath site, with potential for mobile contamination to be present on site, however most likely source areas are near the farm buildings which are located away from these sensitive receptors. No further assessment required unless evidence of visual evidence of hydrocarbon contamination is identified onsite during the design phase or construction phase.
Pesticides / herbicides form agricultural land use	Dermal contact, ingestion and/or inhalation.	Human Health – Future site users / residents and construction workers	Medium	Unlikely	Low	Predominantly pastoral farming and grazing land, not arable farming due to the steep topography.
	Leaching to groundwater, drainage and lateral / vertical migration.	Surface Water (Onsite Stream and Reservoir)	Medium	Unlikely	Low	Pesticides / Herbicides generally short lived and non-persistent since the 1970s. No further assessment required.
Made ground – Heavy metals PAH and Hydrocarbons	Direct Contact	Potable water pipework	Medium	Unlikely	Low	Localised areas of made ground associated with infilling and levelling are likely to present. Significant contamination, if present, is unlikely to be laterally or vertically widespread. While the risk has been assessed as low it is recommended that a United Utilities Risk Assessment be undertaken to confirm that barrier pipe is not required.

Northern Gateway JPA1.2
Phase 1 Geo-environmental and Geotechnical Desk Study Report

Table 6-2 – Preliminary Contamination Qualitative Risk Assessment for Eastern Parcel

This matrix is based on CIRIA C552 risk evaluation methodology, definitions for risk ratings is presented in Appendix F						
Source	Pathway	Receptor	Consequence of risk being realised	Probability of risk being realised	Risk Classification	Justification & Potential Risk Management (if required)
Ground Conditions – Made Ground on site, areas of potential infilling and development overspill (Heavy metals, PAH, ACM)	Dermal contact, ingestion and/or inhalation of or dusts	Human Health – Future site users / residents and construction workers	Medium	Low	Moderate / Low	Localised areas of made ground associated with infilling and levelling are likely to present. The lateral and vertical extent and composition is unknown but likely to be thickest around farm buildings, adjacent and along roads, infilled pits and ponds and along the southern boundary. Significant contamination, if present, is unlikely to be laterally or vertically widespread. Off site historical bleach works is unlikely to be an ongoing source of contaminants that could migrate onto site via groundwater given its age and that the land has been redeveloped with residential housing. Limited evidence of contaminants encountered during site walkover. Potential risks to construction workers can be mitigated through working practices.
		Surface Water (Onsite Streams)	Medium	Unlikely	Low	Localised areas of made ground associated with infilling and levelling are likely to present. Significant contamination, if present, is unlikely to be laterally or vertically widespread. Material will have been subject to leaching since it was placed therefore is unlikely to remain a significant source of contamination. No surface or groundwater water abstractions within 1km. No further assessment required unless significant mobile contamination identified during design phase or construction phase.
	Leaching to groundwater, drainage and lateral / vertical migration.	Secondary A (Superficial) Principal (Bedrock)	Medium	Unlikely	Low	
Hydrocarbons on site from agricultural storage and use and potential migration from adjacent historic Bleach Works. (hydrocarbons)	Dermal contact, ingestion and/or inhalation of or dusts	Human Health – Future site users / residents and construction workers	Medium	Unlikely	Low	No significant historical or existing sources of hydrocarbons identified. While spills may have occurred they are likely to have been localised and involved relatively small volumes and therefore contamination is unlikely to be laterally or vertically widespread. Natural attenuation will have occurred. Off site historical bleach works is unlikely to be an ongoing source of contaminants that could migrate onto site via groundwater given its age and that the land has been redeveloped with residential housing. Potential risks to construction workers can be mitigated through working practices. No further assessment required unless significant mobile contamination identified during design phase or construction phase.

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This matrix is based on CIRIA C552 risk evaluation methodology, definitions for risk ratings is presented in Appendix F

Source	Pathway	Receptor	Consequence of risk being realised	Probability of risk being realised	Risk Classification	Justification & Potential Risk Management (if required)
	Leaching to groundwater, drainage and lateral / vertical migration.	Surface Water (Onsite Stream and Reservoir)	Medium	Unlikely	Low	No significant historical or existing sources of hydrocarbons identified. While spills may have occurred they are likely to have been localised and involved relatively small volumes and therefore contamination is unlikely to be laterally or vertically widespread. Natural attenuation will have occurred.
		Secondary A (Superficial) Principal (Bedrock)	Medium	Low	Moderate / Low	Geological map indicates cohesive Till is likely to present which will act to constrain downward migration. No surface or groundwater water abstractions within 1km. Stream onsite and Principal Aquifer beneath site, with potential for mobile contamination to be present on site, however most likely source areas are near the farm buildings which are located away from these sensitive receptors. No further assessment required unless evidence of visual evidence of hydrocarbon contamination is identified onsite during the design phase or construction phase.
Pesticides / herbicides from agricultural land use	Dermal contact, ingestion and/or inhalation.	Human Health – Future site users / residents and construction workers	Medium	Unlikely	Low	Predominantly pastoral farming and grazing land, not arable farming due to the steep topography.
	Leaching to groundwater, drainage and lateral / vertical migration.	Surface Water (Onsite Streams)	Medium	Unlikely	Low	Pesticides / Herbicides generally short lived and non-persistent since the 1970s. No further assessment required.
Made ground – Heavy metals PAH and Hydrocarbons	Direct Contact	Potable water pipework	Medium	Unlikely	Low	Localised areas of made ground associated with infilling and levelling are likely to present. Significant contamination, if present, is unlikely to be laterally or vertically widespread. While the risk has been assessed as low it is recommended that a United Utilities Risk Assessment be undertaken to confirm that barrier pipe is not required.

7.0 PRELIMINARY GEOTECHNICAL ASSESSMENT – WESTERN PARCEL

This section summarises the anticipated ground conditions and preliminary geotechnical assessment for the Western Parcel, including highlighting the potential constraints for the proposed future development, based on the information identified in the preceding sections for the Western Parcel.

Actual ground conditions will need to be confirmed through ground investigation. It is anticipated this will need to be carried out in several phases.

7.1 ANTICIPATED GROUND CONDITIONS

The anticipated ground conditions are summarised in Section 4.2 and indicated by drawing B048805-TTE-00-XX-DR-U-0025 Geology Plan.

- Made Ground while not mapped onsite is likely associated with infilled ponds, pits, farm buildings, motorway cuttings and areas where ground has been levelled.
- Superficial strata across site primarily comprise Hummocky (moundy) Glacial Deposits (poorly sorted sand, gravel and silty clay with a moundy topography). A small area of Glaciofluvial Sheet Deposits (sand and gravel) is mapped in the south of the Western Parcel. Head Deposits (clay, silt, sand and gravel) are mapped as present along the stream that runs northwest to southeast through the Western Parcel and in the southwest of the Eastern Parcel. The geological map indicates that Till, comprising clay to sandy clay, unsorted, with gravel, cobbles and boulders is anticipated to be present beneath the other superficial deposits. Given the variable topography at the site there is potential for variation in both the lateral and horizontal distribution of superficial deposits and for variation in their composition.
- The bedrock geology comprises primarily the Pennine Lower Coal Measures Formation across the northeast of the Western Parcel. The Pennine Middle Coal Measures Formation (mudstone, siltstone and sandstone) is present across the centre of the Western Parcel. These Formations comprise mudstone and siltstone with sandstone and subordinate seatearth beds and thin coal seams. In the southwest of the Western Parcel the Chester Formation (Sandstone) is present with a small area in the southeast of the Western Parcel where the Manchester Marls (mudstone) outcrops. The geological map (Sheet 85) indicates rockhead is at approximately 60m OD in the south of the parcels, rising up to approximately 70m OD in the north. The southern boundary of the parcels is located in the vicinity of a buried valley in the rockhead, and consequently there is potential for rockhead to be at <60m OD in those areas.
- Information about groundwater is limited. The depth to groundwater is likely shallower near the stream and at the base of the slope however this has not been proved.

7.2 POTENTIAL GEOTECHNICAL CONSTRAINTS TO DEVELOPMENT

Potential ground constraints are shown on drawing B048805-TTE-00-XX-DR-U-0024 Geotechnical Constraints Plan Western Parcel and listed below:

- Stability of slopes around the parcel during development and loading near stream. Risk of landslide predominantly located along the stream on site, but movement noted in other locations during walkover.
- Potential un-engineered made ground or other 'soft spots', especially in historic quarries and ponds. Differential settlement, especially where foundations bridge differing strata. The extraction and any backfilling are likely to have been uncontrolled and therefore potential for non-engineered Made Ground.
- Collapse compression of deep, dry un-compacted made ground.
- In ground structures and relic foundations from historical structures. Potential for 'hard spots' where below ground elements (e.g. foundations, basements) of historical buildings have not been grubbed out.

- Shrink/swell of clays due to the water demand of historical or current trees.
- Unknown depth of groundwater.
- Granular superficial deposits will require excavation support.
- Sulphate attack on infrastructure.
- Compression of natural strata.
- Existing below ground utilities present on site may need diversion.
- Soft compressive ground may be encountered e.g. where marshy areas are present and/or in the vicinity of watercourses.

7.3 RESERVOIR

Although the reservoir is outside the assessment area boundary, collapse of the reservoir's embankment can result in fatality and significant damage to the proposed residential development. Given the age of the embankment, and the lack of maintenance records, there is considered a risk of embankment collapse. Monitoring equipment (e.g., piezometer, extensometer, and inclinometer) is recommended to be installed to monitor the embankment movement (if any). Further advice from a specialist dam consultant is recommended.

7.4 GEOCHEMISTRY

A suite of sulphate testing to allow the characterisation of ground aggressivity for concrete classification across the site will be required at ground investigation survey.

7.5 ENABLING WORKS

7.5.1 Cut and Fill and Earthworks

Significant cut and fill works are expected to be required to achieve development platforms for proposed development. There is potential that significant cut depths could result in cutting into bedrock.

The Hummocky (moundy) Glacial Deposits are indicated to comprise poorly sorted sand, gravel and silty clay which may vary laterally and vertically and consequently the material is likely to comprise more than one engineering class under the Specification for Highways Works classification. The suitability of the material for reuse will be dependent on its composition. Diligent excavation and separation of material will be required in order to maximise reuse.

The Hummocky (moundy) Glacial Deposits are anticipated to be underlain by superficial Glacial Till deposits which are generally cohesive. In dry conditions such material is usually suitable for re-engineering in areas of filling. However, during winter and periods of wet weather, the material will be less suited to re-engineering and can be expected to require lime modification. It will also present poor tracking conditions for site plant during wet weather.

7.5.2 Materials Management

It is expected that a Materials Management Plan (MMP) will need to be produced in accordance with the CL:AIRE Definition of Waste Code of Practice (DoWCoP) for earthworks. The MMP will need to demonstrate material geotechnical and chemical suitability for use, certainty of use and that the volumes of material being proposed for re-use are required. This requires supporting documentation including interpretative ground investigation reports, remediation strategy, cut and fill plans and evidence of liaison with regulators. The MMP must be registered by an accredited Qualified Person (QP) before material movement starts onsite.

The aim should be to achieve a site cut/fill balance where possible to minimise lorry movements on and off site and to minimise waste disposal costs.

If off site disposal of soils is required the material to be disposed will require waste characterisation to determine if they are classified as hazardous or non-hazardous. Under certain scenarios waste acceptance criteria (WAC) testing of the material will also be required as part of the information required by a landfill. Disposal of soils to a soil treatment centre may also be a viable option for made ground that is unsuitable for use on site.

7.5.3 Temporary Works

Groundwater depths are currently unknown so the need for dewatering or excavation support is unknown.

All excavations requiring entry of personnel should be fully supported. Gas risks to construction personnel should also be considered.

Implications for temporary works can be initially assessed after the first phase of ground investigation.

7.6 FOUNDATIONS

At present, no geotechnical ground investigation data is available and consequently it is only possible to estimate the ground conditions. Before firm foundation recommendations can be given, it will be necessary to undertake an appropriate ground investigation. The foundations required will also be dependent upon the structure types and loadings.

Made ground is not generally considered a suitable founding material and foundations should be taken through it, into underlying natural in-situ strata of adequate bearing capacity.

Any concrete slabs, buried foundations etc will require breaking out during the demolition of existing buildings. Foundations of plots that conflict with relict foundations should be taken to greater depth than the relict foundations and into natural ground of adequate bearing capacity.

Areas of Hummocky (moundy) Glacial Deposits that have not been re-engineered may be of variable strength and may not provide a sufficient bearing capacity to support the proposed build (subject to anticipated loadings & ground conditions).

In areas where Glacial Till or bedrock is at or near surface, traditional shallow strip foundations are likely to be suitable for lightly loaded structures. More heavily loaded structures may require ground improvement or piled foundations.

In areas of fill, where soils have been re-engineered to a suitable earthworks specification, demonstrated by post-earthworks conformance testing, raft foundations or reinforced strip foundations may be suitable for lightly loaded structures.

In locations where bedrock and superficial deposits are encountered, it is important to make sure the whole foundation is on bedrock rather than bridging the two strata in order to prevent differential settlement.

7.7 PILED FOUNDATION RISK ASSESSMENT

The assessment has identified that there is unlikely to be significant contamination associated with soils or groundwater at the site. Similarly, the assessment has not identified a significant risk from ground gas for the site. Consequently, piled foundations, should they be required, are unlikely to create a preferential pathway for migration of contaminants or ground gas.

7.8 FLOOR SLABS, HIGHWAYS AND HARDSTANDING

Soils in areas of filling should be re-engineered to a suitable earthworks specification (and potentially in areas of cut depending upon the ground conditions) to facilitate the required floor slabs, hardstanding and highways. Retaining walls may be required in areas of significant cut or fill.

The risk of differential settlements should be considered in areas of variable ground conditions or where structures span cut and fill areas.

Localised areas of infilled quarries present a risk of differential settlement and should be identified and delineated and re-engineered near surface as required for tolerable settlements. This may require the incorporation of reinforcement into the design.

If highways are to be adopted consultation with the local authority regarding the specification of the highway is recommended.

7.9 INFILTRATION DRAINAGE

Given anticipated ground conditions, most notably the Glacial Till likely to underlie the site, soakaways are unlikely to be a viable solution for the disposal of surface water. Alternative approaches for water attenuation are detailed in the SuDS manual (CIRIA 753).

With respect to detention basins, which should normally be dry, water table levels should be taken from borehole monitoring wells over 4 consecutive seasons, for at least 3 points in the basin area. The detention basin should be designed to ensure that there is a minimum of 1m of unsaturated soil between the maximum groundwater level and the lowest part of the structure.

Surface water runoff is recommended to be collected and disposed of appropriately. Discharging surface runoff onto a slope can result in scour erosion that may destabilise slopes.

8.0 PRELIMINARY GEOTECHNICAL ASSESSMENT – EASTERN PARCEL

This section summarises the anticipated ground conditions and preliminary geotechnical assessment for the Eastern Parcel, including highlighting the potential constraints for the proposed future development, based on the information identified in the preceding sections for the Eastern Parcel.

Actual ground conditions will need to be confirmed through ground investigation. It is anticipated this will need to be carried out in several phases.

8.1 ANTICIPATED GROUND CONDITIONS

The anticipated ground conditions are summarised in Section 4.2 and indicated by drawing B048805-TTE-00-XX-DR-U-0025 Geology Plan.

- Made Ground while not mapped onsite is likely associated with infilled ponds, pits, and motorway cuttings and areas where ground has been levelled.
- Superficial strata across site generally comprise Hummocky (moundy) Glacial Deposits (poorly sorted sand, gravel and silty clay with a moundy topography). The southwestern area is mapped as Head Deposits (clay, silt, sand and gravel) and generally follow the southernmost stream. Peat may also be present associated with the central portion of the Eastern Parcel where there is no agricultural activity. The geological map indicates that Till, comprising clay to sandy clay, unsorted, with gravel, cobbles and boulders is anticipated to be present beneath the other superficial deposits. Given the variable topography at the site there is potential for variation in both the lateral and horizontal distribution of superficial deposits and for variation in their composition.
- Bedrock strata of the Pennine Lower Coal Measures Formation comprising mudstone, siltstone and sandstone. Bedrock is anticipated to be at approximately 60m to 70m above Ordnance Datum, with potential for it to be lower in the vicinity of the southern boundary due to proximity of a buried valley.
- Information about groundwater is limited. The depth to groundwater is likely shallower near the stream and at the base of the slope however this has not been proved.

8.2 POTENTIAL GEOTECHNICAL CONSTRAINTS TO DEVELOPMENT

Potential ground constraints are shown on drawing B048805-TTE-00-XX-DR-U-0024 Geotechnical Constraints Plan Western Parcel and listed below:

- Based on review of the existing site geomorphology, there is considered a risk of areas of slope instability within the Eastern Parcel. This risk is likely greatest in the vicinity of a stream or a spur line (e.g., within the western part of the Eastern Parcel). Due to heavy vegetation, no observable slope instability features were identified during the walkover. A building restriction line and/ or engineered slope stabilisation may be required depending on the earthwork extent and the building/ structure load.
- Potential un-engineered made ground or other 'soft spots', in particular associated with the footprint of historical quarries and infilled ponds. The extraction and any backfilling are likely to have been uncontrolled and therefore potential for non-engineered Made Ground. Differential settlement is a risk, especially where foundations bridge differing strata.
- Collapse compression of deep, dry un-compacted made ground.
- In ground structures and relic foundations from historical structures. Potential for 'hard spots' where below ground elements (e.g. foundations, basements) of historical buildings have not been grubbed out.
- Shrink/swell of clays due to the water demand of historical or current trees.
- Unknown depth of groundwater.
- Granular superficial deposits will require excavation support.

- Sulphate attack on infrastructure.
- Compression of natural strata.
- Existing below ground utilities present on site may need diversion.
- Soft compressive ground may be encountered e.g. where marshy areas are present and/or in the vicinity of watercourses.
- Potential for localised deposits of peat in the central portion of the parcel associated with the marshy area.

8.3 GEOCHEMISTRY

A suite of sulphate testing to allow the characterisation of ground aggressivity for concrete classification across the site will be required at ground investigation survey.

8.4 ENABLING WORKS

Refer to Section 7.5 above for recommendation/ assessment.

8.5 FOUNDATIONS

Refer to Section 7.6 above for recommendation/ assessment.

8.6 PILED FOUNDATION RISK ASSESSMENT

Refer to Section 7.7 above for recommendation/ assessment.

8.7 FLOOR SLABS, HIGHWAYS AND HARDSTANDING

Refer to Section 7.8 above for recommendation/ assessment.

8.8 INFILTRATION DRAINAGE

Refer to Section 7.9 above for recommendation/ assessment.

9.0 GEOTECHNICAL RISK REGISTER

9.1 OVERVIEW

This section presents a Geotechnical Risk Register (GRR) for the scheme based on the information identified in the preceding sections for the Western Parcel. The scope of work excluded the Eastern parcel from this element of the assessment. The risks have been evaluated using the risk evaluation matrix suggested in CD 622 'Managing Geotechnical Risk, which is reproduced as Table 8-1, and are presented in Table 8-2.

For the purposes of this report, risk has been assessed with reference to 'likelihood', 'severity' and 'risk'.

Table 9-1 – Risk Evaluation Matrix

Risk Matrix						
Likelihood		Severity				
		1	2	3	4	5
		Minor	Moderate	Serious	Major	Catastrophic
1	Extremely unlikely	1	2	3	4	5
2	Unlikely	2	4	6	8	10
3	Likely	3	6	9	12	15
4	Extremely likely	4	8	12	16	20
5	Almost certain	5	10	15	20	25
Potential severity of harm occurring						
1	Minor	Minor damage or loss - (no human injury)				
2	Moderate	Moderate damage or loss - (slight injury or illness)				
3	Serious	Substantial damage or loss - (serious injury or illness)				
4	Major	Major damage or loss - (fatal injury)				
5	Catastrophic	Catastrophic damage or loss - (multiple fatalities)				
Risk Classification						
Low (1-8)	Ensure assumed control measures are maintained and reviewed as necessary.					
Medium (9-19)	Additional control measures needed to reduce risk rating to a level that is equivalent to a test of "reasonably required" for.					
High (20-25)	Activity not permitted. Hazard to be avoided or risk to be reduced to tolerable level.					

Table 9-2 – Preliminary Geotechnical Risk Register for Western Parcel

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
1	Reservoir (fish pond) bank collapse.	Earthen embankment forming the onsite reservoir is old and of unknown composition. Its failure could lead to flooding and significant damage. The high likelihood is based on the embankment age and the unknown maintenance schedule.	During Design, Construction, Operation.	4	5	20	It is recommended that investigation and monitoring is put in place on order to assess the stability of the embankment now and in the future in line with the proposed development. Slope will need re-assessing should monitoring highlight any changes.	2	5	10	Yes	Active
2	Compression of the natural ground.	Compressible, and potentially organic rich ground, in the area surrounding the stream and any ponds.	During Design, During Construction, During operation	4	4	16	Ground investigation to assess lateral and vertical extents of organic or alluvium deposits and their compressibility potential. Ground improvement method or remedial measures to be designed and constructed to appropriately mitigate risk to development.	2	2	4	Risk no longer present once constructed.	Active
3	Un-engineered made ground – possible infilled and levelled areas and backfilled ponds / sand pits.	Building Settlement / Failure of Foundations. Differential settlement of services leading to issues with drainage and damage to joints.	During Design, Construction, Operation.	3	4	12	Ground investigation to assess ground conditions, depth of fill etc. Foundation and ground improvement to be designed and constructed to appropriately mitigate the risk.	2	2	4	Risk to be addressed at design / construction stage otherwise risk remains	Active

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
		Risk of collapse compression in deep un-engineered made ground if groundwater not present					Possible use of flexible service joints.				during operation.	
4	In ground obstructions and relict foundations.	Potential shallow refusal of ground investigation techniques. Increase in time and equipment to remove obstructions and associated disposal costs. 'Hard spots' that could lead to differential settlement.	During Design, Construction, Operation.	4	3	12	Undertake a suitable ground investigation. Make preparations to deal with obstructions in ground. Have strategy for dealing with unidentified obstructions encountered during earthworks.	2	3	6	Risk to be addressed at design / construction stage otherwise risk remains during operation..	Active
5	Shrink / swell of clay	Shrink/swell of clay due to the water demand of historical or current trees leading to damage to foundations	During Construction, Operation.	3	4	12	Suitable ground investigation required. Arboricultural survey recommended. Deepening of foundations in expansive clays.	2	4	8	Yes	Active
6	Unknown depth of groundwater	Hazard to ground workers. Potential to contribute to instability of excavations.	During Design, Construction.	3	4	12	Site investigation to record groundwater levels onsite. Dewatering may be required for deep excavations.	2	3	6	Risk no longer present once constructed.	Active

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
		Buoyancy of structures (e.g. attenuation tank) due to shallow groundwater. May require revised methods of construction for foundations.										
7	Superficial Deposits comprising sands and gravel	Difficulty excavating due to increased side wall instability.	During Construction	3	4	12	Suitable ground investigation required. Excavation support and dewatering may be required.	2	4	8	Risk no longer present once constructed.	Active
8	Presence of below ground utilities already onsite.	Unknown below ground utilities onsite may cause a risk to site workers. Works to be undertaken onsite may cause damage to existing below ground utilities. May not be able to develop close to existing below ground utilities.	During Design, Construction.	3	4	12	Contacting all potential asset owners for plans. Undertake PAS 128 compliant survey. Engage stakeholders early on should below ground utilities need to be re-routed.	2	4	8	Risk no longer present once constructed.	Active
9	Slope stability onsite	Slopes onsite show small failures. Increased load due to development may effect the stability, especially along the stream banks.	During Design, During Construction, During operation	3	4	12	Avoid construction close to watercourses. Care to be taken during earthworks and suitable level of reprofiling to reduce the risk of future failures.	2	4	8	Yes	Active

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
		Hummocky (Moundy) Glacial Deposits prone to slope instability.					If construction required close to water courses, ground investigation and slope stability analysis to assess the potential for slope failures / landslide. Remedial measures to mitigate risk if required. Slope instability likely shallow and localised.					
10	Differential settlement	Foundations should not bridge differing strata (e.g. Bedrock and Superficial) as differential settlement may cause damage to structures.	During Design, Construction, Operation.	3	3	9	Ground investigation to assess ground conditions, depth of strata etc. Deepening foundations where required to make sure the same founding strata across the foundation. Strengthening of foundations.	2	2	4	Risk no longer present once constructed.	Active
11	Differential settlement between buildings and infrastructure e.g. hardstanding, utilities and roads	Foundation solution for buildings is robust but un- engineered made ground supporting utilities and pavement	During Design, During Construction, During operation	3	3	9	Ground investigation to assess ground conditions, depth of fill etc. Foundation solution to be considered together with ground solutions for pavement and infrastructure. Ground improvement or re-engineering to	2	3	6	No	Active

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
							be implemented if required to mitigate risk					
12	Aggressive ground.	Unknown pH and sulphate levels of natural and made ground which could attack concrete infrastructure leading to damage over time.	During Operation.	3	3	9	Suitable ground investigation required involving testing of soils likely to come into contact with infrastructure. Dependant on the results of testing, sulphate resistant concrete may be required.	2	2	4	Yes	Active
13	Unexpected contamination - outside of areas where it is anticipated based on historical information (see contamination risk assessment sections of this desk study report for further details)	Unexpected contamination - H&S and cost	During Ground Investigation, Design, Construction.	4	2	8	Ground investigation to assess the anticipated areas. Other unexpected contamination on site is likely to be localised. Earthworks specification to include for measures should contamination be encountered. Cost plan to include allowance.	2	2	4	Risk no longer present once constructed.	Active

Table 9-3 – Preliminary Geotechnical Risk Register for Eastern Parcel

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
1	Compression of the natural ground.	Compressible, and potentially organic rich ground, in the area surrounding the marshy areas and/or streams/ ponds. Peat may be encountered at the centre of the site. Presence and extent is currently not known.	During Design, During Construction, During operation	4	4	16	Ground investigation to assess lateral and vertical extents of organic or alluvium deposits and their compressibility potential. Ground improvement method or remedial measures to be designed and constructed to appropriately mitigate risk to development.	2	2	4	Risk no longer present once constructed.	Active
2	Slope stability onsite	Increased load due to development may effect the stability, especially along the stream banks and spur line. Hummocky (Moundy) Glacial Deposits prone to slope instability.	During Design, During Construction, During operation	4	4	16	Avoid construction close to watercourses. Care to be taken during earthworks and suitable level of reprofiling to reduce the risk of future failures. If construction required close to water courses, ground investigation and slope stability analysis to assess the potential for slope failures / landslide. Remedial measures to mitigate risk if required. Slope instability likely shallow and localised.	2	4	8	Yes	Active

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
3	Un-engineered made ground – possible infilled and levelled areas and backfilled ponds / sand pits.	Building Settlement / Failure of Foundations. Differential settlement of services leading to issues with drainage and damage to joints. Risk of collapse compression in deep un-engineered made ground if groundwater not present	During Design, Construction, Operation.	3	4	12	Ground investigation to assess ground conditions, depth of fill etc. Foundation and ground improvement to be designed and constructed to appropriately mitigate the risk. Possible use of flexible service joints.	2	2	4	Risk to be addressed at design / construction stage otherwise risk remains during operation.	Active
4	Shrink / swell of clay	Shrink/swell of clay due to the water demand of historical or current trees leading to damage to foundations	During Construction, Operation.	3	4	12	Suitable ground investigation required. Arboricultural survey recommended. Deepening of foundations in expansive clays.	2	4	8	Yes	Active
5	Unknown depth of groundwater	Hazard to ground workers. Potential to contribute to instability of excavations. Buoyancy of structures (e.g. attenuation tank) due to shallow groundwater.	During Design, Construction.	3	4	12	Site investigation to record groundwater levels onsite. Dewatering may be required for deep excavations.	2	3	6	Risk no longer present once constructed.	Active

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
		May require revised methods of construction for foundations.										
6	Superficial Deposits comprising sands and gravel.	Difficulty excavating due to increased side wall instability.	During Construction	3	4	12	Suitable ground investigation required. Excavation support and dewatering may be required.	2	4	8	Risk no longer present once constructed.	Active
7	Presence of below ground utilities already onsite.	Unknown below ground utilities onsite may cause a risk to site workers. Works to be undertaken onsite may cause damage to existing below ground utilities. May not be able to develop close to existing below ground utilities.	During Design, Construction.	3	4	12	Contacting all potential asset owners for plans. Undertake PAS 128 compliant survey. Engage stakeholders early on should below ground utilities need to be re-routed.	2	4	8	Risk no longer present once constructed.	Active
8	Differential settlement	Foundations should not bridge differing strata (e.g. Bedrock and Superficial) as differential settlement may cause damage to structures.	During Design, Construction, Operation.	3	3	9	Ground investigation to assess ground conditions, depth of strata etc. Deepening foundations where required to make sure the same founding strata across the foundation. Strengthening of foundations.	2	2	4	Risk no longer present once constructed.	Active

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
9	Differential settlement between buildings and infrastructure e.g. hardstanding, utilities and roads.	Foundation solution for buildings is robust but un-engineered made ground supporting utilities and pavement	During Design, During Construction, During operation	3	3	9	Ground investigation to assess ground conditions, depth of fill etc. Foundation solution to be considered together with ground solutions for pavement and infrastructure. Ground improvement or re-engineering to be implemented if required to mitigate risk	2	3	6	No	Active
10	Aggressive ground.	Unknown pH and sulphate levels of natural and made ground which could attack concrete infrastructure leading to damage over time.	During Operation.	3	3	9	Suitable ground investigation required involving testing of soils likely to come into contact with infrastructure. Dependant on the results of testing, sulphate resistant concrete may be required.	2	2	4	Yes	Active
11	Unexpected contamination - outside of areas where it is anticipated based on historical information (see contamination risk assessment sections of this	Unexpected contamination - H&S and cost	During Ground Investigation, Design, Construction.	4	2	8	Ground investigation to assess the anticipated areas. Other unexpected contamination on site is likely to be localised. Earthworks specification to include for measures should contamination be encountered. Cost plan to include allowance.	2	2	4	Risk no longer present once constructed.	Active

Northern Gateway JPA1.2

Phase 1 Geo-environmental and Geotechnical Desk Study Report

Hazard Reference	Activity/Process/ Material/Element	Hazard (also indicate who/what is at risk and how)	Stage of Work	Initial Risk Level			Risk Control Measures: Design action taken, record of decision process including option considered, design constraints and justification for options/actions not having been taken	Residual Risk Level			Is there a 'significant' residual risk to be passed on? (Y/N)	Status (Active / Closed)
				Likelihood	Severity	Risk Level		Likelihood	Severity	Risk Level		
	desk study report for further details)											

10.0 CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS – WESTERN PARCEL

10.1.1 Anticipated Ground Conditions

Made Ground while not mapped onsite is likely associated with infilled ponds, pits, farm buildings, motorway cuttings and areas where ground has been levelled.

Superficial deposits are indicated to be Morainic Deposits (poorly sorted sand, gravel and silty clay with a mounded topography) across the majority of the parcel. A small area of Glaciofluvial Sheet Deposits (sand and gravel) are mapped in the south of the Western Parcel. Head Deposits (clay, silt, sand and gravel) are mapped as present along the stream that runs northwest to southeast through the Western Parcel. Till (clay to sandy clay, unsorted, with gravel, cobbles and boulders) is anticipated to be present beneath the other superficial deposits. Given the variable topography at the site there is potential for variation in both the lateral and horizontal distribution of superficial deposits and for variation in their composition.

There are several small depressions with ponds at their base that appear to be historic sand pits.

Bedrock is indicated to be Pennine Lower Coal Measures Formation in the northeast and Pennine Middle Coal Measures Formation (mudstone, siltstone and sandstone) in the centre of the Western Parcel. In the southwest of the western parcel, the Chester Formation (sandstone) is present with a small area in the southeast where the Manchester Marls Formation (mudstone) outcrops.

The geological map (Sheet 85) indicates rockhead is at approximately 60m OD in the south of the parcels, rising up to approximately 70m OD in the north. The southern boundary of the parcels is located in the vicinity of a buried valley in the rockhead, and consequently there is potential for rockhead to be at <60m OD in those areas. Superficial deposits may also be thicker in the south of the parcels.

There is limited information regarding groundwater level.

10.1.2 Coal Mining

The site is within a Coal Mining Reporting Area but it is not within a Development High Risk Area defined by the Mining Remediation Authority. No mine entries or outcrops are present on or close to the site in data sets available from the Mining Remediation Authority and therefore the risk to the site from historical coal mining is considered low.

10.1.3 Preliminary Geotechnical Assessment

The geotechnical risk register details the potential geotechnical risks associated with the Western Parcel.

Exact loadings and the extent of cut and fill operations are not currently known, however it is anticipated that a significant proportion of the site will need to be re-engineered and levelled to create platforms for development. As such, where competent natural strata are present following cut/fill works traditional strip foundations are likely to be suitable and, dependant on the earthworks specifications, the re-engineered material may be suitable for raft foundations or reinforced strip foundations.

Un-engineered made ground may be present in former sand pits and presents a risk of differential settlement.

The reservoir/ large pond present immediately east of the centre of this parcel is retained by an embankment of unknown construction.

10.1.4 Preliminary Contamination Assessment

The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel. Without further assessment radon protection measures are likely to be required for properties constructed over Head Deposits, or if Head Deposits are excavated and placed as fill in construction areas.

Ground gas has not been identified as a risk for this parcel and is not considered further.

The presence of areas of contamination at the site cannot be ruled out however given the historical use and general agricultural setting of the site it is reasonable to assume that such areas of contamination will be relatively localised. The risk from ground contamination at the site is considered to be as follows:

- **Moderate/Low** risk to future site users / residents and construction workers from made ground on site.
- **Low risk** to controlled waters (surface waters and underlying aquifers) from made ground on site.
- **Low** risk to future site users / residents, construction workers and a **Moderate/Low risk** to controlled waters (surface waters and underlying aquifers) from potential hydrocarbons on site.
- **Low risk** to future site users / residents and construction workers and controlled waters from residual pesticides / herbicides on site.
- **Low risk** to potable pipework from made ground on site.

10.2 CONCLUSIONS – EASTERN PARCEL

10.2.1 Anticipated Ground Conditions

Made Ground while not mapped onsite is likely associated with infilled ponds, pits, farm buildings, motorway cuttings and areas where ground has been levelled.

Superficial deposits are indicated to be Morainic Deposits (poorly sorted sand, gravel and silty clay with a moundy topography) across the majority of the parcel. Head Deposits (clay, silt, sand and gravel) are mapped as present along the stream that runs northwest to southwest through the Eastern Parcel. Peat may be present associated with the central portion of the Eastern Parcel where marshy ground is present and there is no agricultural activity. Till (clay to sandy clay, unsorted, with gravel, cobbles and boulders) is anticipated to be present beneath the other superficial deposits. Given the variable topography at the site there is potential for variation in both the lateral and horizontal distribution of superficial deposits and for variation in their composition.

There are several small depressions with ponds at their base that appear to be historic sand pits.

Bedrock is indicated to be Pennine Lower Coal Measures Formation.

The geological map (Sheet 85) indicates rockhead is at approximately 60m OD in the south of the parcels, rising up to approximately 70m OD in the north. The southern boundary of the parcels is located in the vicinity of a buried valley in the rockhead, and consequently there is potential for rockhead to be at <60m OD in those areas. Superficial deposits may also be thicker in the south of the parcels.

There is limited information regarding groundwater level. A historical borehole, 20m to the southwest of the parcels, recorded a water strike in the superficial deposits at 6.9mbgl rising to 5.0mbgl after 15 minutes.

10.2.2 Coal Mining

The site is within a Coal Mining Reporting Area but it is not within a Development High Risk Area defined by the Mining Remediation Authority. No mine entries or outcrops are present on or close to the site in data sets available from the Mining Remediation Authority and therefore the risk to the site from historical coal mining is considered low.

10.2.3 Preliminary Geotechnical Assessment

The geotechnical risk register details the potential geotechnical risks associated with the Eastern Parcel.

Exact loadings and the extent of cut and fill operations are not currently known, however it is anticipated that a significant proportion of the site will need to be re-engineered and levelled to create platforms for development. As such, where competent natural strata are present following cut/fill works traditional strip foundations are likely to be suitable and, dependant on the earthworks specifications, the re-engineered material may be suitable for raft foundations or reinforced strip foundations.

Un-engineered made ground may be present in former sand pits and presents a risk of differential settlement.

There may be a risk of slope instability on site. This risk is greatest in the vicinity of existing streams or a spur line (e.g., western portion of the Eastern Parcel).

10.2.4 Preliminary Contamination Assessment

The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel. Without further assessment radon protection measures are likely to be required for properties constructed over Head Deposits, or if Head Deposits are excavated and placed as fill in construction areas.

Ground gas has not been identified as a risk for this parcel and is not considered further.

The presence of areas of contamination at the site cannot be ruled out however given the historical use and general agricultural setting of the site it is reasonable to assume that such areas of contamination will be relatively localised. The risk from ground contamination at the site is generally considered to be as follows:

- **Moderate/Low** risk to future site users / residents and construction workers from made ground on site.
- **Low risk** to controlled waters (surface waters and underlying aquifers) from made ground on site.
- **Low** risk to future site users / residents, construction workers and a **Moderate/Low** risk to controlled waters (surface waters and underlying aquifers) from potential hydrocarbons on site.
- **Low risk** to future site users / residents and construction workers and controlled waters from Pesticides / Herbicides on site.
- **Low risk** to potable pipework from made ground on site.

10.3 PART 2A AND PLANNING

The site is unlikely to be classified as 'Contaminated Land' under Part 2A of the Environmental Protection Act. Note Part 2A is assessed on the basis of current use. It is not directed at assessing risks in relation to future use.

The National Planning Policy Framework (NPPF) last updated in December 2024 states the following with respect to contamination:

"Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner".

Annex 2 of NPPF states that site investigation information "includes a risk assessment of land potentially affected by contamination, or ground stability and slope stability reports, as appropriate. All investigations of land potentially affected by contamination should be carried out in accordance with established procedures (such as BS10175 Investigation of Potentially Contaminated Sites – Code of Practice)".

10.4 LIMITATIONS

The scope of work presented in this report is limited to that detailed in the instructed fee proposal for the work.

The conclusions and recommendations in this report must not be used in respect of any development differing in any way from the proposals described in this report, without reference back to Tetra Tech or to another geo-environmental specialist.

Changes to the boundary of the assessment area or to the proposed end use will require reassessment of the information presented in this report.

10.5 UNCERTAINTIES

The construction methodology and material of the reservoir embankment (immediately adjacent to the Western Parcel).

The distribution and thickness of made ground.

The thickness and composition of superficial deposits.

The presence/absence of peat in the Eastern Parcel.

The depth, level and competency of bedrock.

The location of boundaries between geological units.

The groundwater profile within the different geological deposits.

Suitability of near surface deposits for infiltration drainage.

The suitability of materials for reuse (from both a geotechnical and contamination perspective).

Whether infrastructure associated with the historical Bleach Works extended into the south of the Eastern Parcel.

Acceptable slope angles for the different types of soils and superficial deposits (note outline design of slopes are required before this can be assessed).

10.6 RECOMMENDATIONS

10.6.1 Western Parcel

Suspected Japanese Knotweed and Himalayan Balsam was identified in two areas of the parcel, one along the boundary with the flats in the southeast and the other along the reservoir (fishing pond) overflow. It is recommended that an ecologist is consulted in advance of construction phase works near these areas. Note treatment of invasive species sometimes requires excavation and disposal of root networks or other mitigation measures to prevent re-growth from roots.

Ground investigation to characterise ground conditions will be required across the site. It may be the case that more than one phase of ground investigation will be required in each part of the site as design progresses.

Geotechnical ground investigation will be required to address uncertainties, obtain information relating to geotechnical risks and determine the parameters of the underlying soils and to obtain data for geotechnical design including foundations, earthworks, retaining structures, settlement assessment and pavement design and to provide information about groundwater levels.

Geochemical testing of the soils will be required to confirm the concrete classification.

Geo-environmental investigation and testing of the underlying soils will be required for the following:

- targeting the identified potential sources of contamination;
- characterising the contamination status of soils proposed for reuse as part of cut/fill earthworks (e.g. as part of demonstrating suitability for use).
- characterising the contamination status of groundwater (e.g. to allow assessment of potential impacts to groundwater associated with reuse of materials as part of cut/fill earthworks).
- geochemical testing of soils to assess the concrete classification.

Areas of tarmacadam (e.g. existing tracks) will require testing to determine the composition and concentration of coal tar present in the material.

Although the reservoir is outside the assessment area boundary, collapse of the reservoir's embankment can result in fatality and potentially significant damage to the proposed residential development. Given the age of the embankment there is considered a risk of embankment collapse. Monitoring equipment (e.g., piezometer, extensometer, and inclinometer) is recommended to be installed to monitor the embankment movement (if any). Further advice from a specialist dam consultant is recommended.

The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel, where 10%-30% of homes are recorded above the action level. A site-specific radon assessment should be undertaken to confirm the presence and classification of radon risk at the site.

Investigation and monitoring of the embankment for the large pond in the central portion of the Western Parcel is recommended to assess its construction and long term stability.

Slope stability assessment may be required in the future, depending on cut/fill proposals. The geotechnical properties of the material that a slope will be created from and the proposed angle of a slope are required in order to undertake slope stability assessment.

10.6.2 Eastern Parcel

Ground investigation to characterise ground conditions will be required across the site. It may be the case that more than one phase of ground investigation will be required in each part of the site as design progresses.

Geotechnical ground investigation will be required to address uncertainties, obtain information relating to geotechnical risks and determine the parameters of the underlying soils and to obtain data for geotechnical design including foundations, earthworks, retaining structures, settlement assessment and pavement design and to provide information about groundwater levels.

Geo-environmental investigation and testing of the underlying soils will be required for the following:

- targeting the identified potential sources of contamination;
- characterising the contamination status of soils proposed for reuse as part of cut/fill earthworks (e.g. as part of demonstrating suitability for use).
- characterising the contamination status of groundwater (e.g. to allow assessment of potential impacts to groundwater associated with reuse of materials as part of cut/fill earthworks).
- geochemical testing of the soils will be required to confirm the concrete classification.
- areas of tarmacadam (e.g. existing tracks) will require testing to determine the composition and concentration of coal tar present in the material.

The potential for radon above the Action Level is associated with the distribution of the Head Deposits within the parcel, where 10%-30% of homes are recorded above the action level. A site-specific radon assessment should be undertaken to confirm the presence and classification of radon risk at the site.

Slope stability assessment may be required in the future, depending on cut/fill proposals. The geotechnical properties of the material that a slope will be created from and the proposed angle of a slope are required in order to undertake slope stability assessment.

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DRAWINGS

APPENDIX A – REPORT CONDITIONS

APPENDIX A - REPORT CONDITIONS
GEO-ENVIRONMENTAL DESK-STUDY

This report is produced solely for the benefit of by Northern Gateway Development Vehicle LLP and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

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 future changes in the condition of the site.

This report is based on a study of readily accessible referenced historical records. Some of the opinions are based on unconfirmed data and information and are presented in good faith without exhaustive clarification. Where ground conditions are discussed but no physical site test results are available to confirm this, the report must be regarded as initial advice only, and further assessment should be undertaken prior to detailed activities related to the site. Where test results undertaken by others have been made available these can only be regarded as a limited sample.

Whilst confident in the findings detailed within this report because there are no exact UK definitions of these matters, we are unable to give categorical assurances that they will be accepted by Authorities or Funds etc. without question, as such bodies may have unpublished, often more stringent objectives. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Tetra Tech. In time improved practices or amended guidance may necessitate a re-assessment. The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous use and abuse of the site and adjacent sites. The report concentrates on the site as defined in the report and provides an opinion on surrounding sites.

APPENDIX B – ENVIROCHECK AND GROUNDSURE REPORT



Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

202263147_1_1

Customer Reference:

A104444-1

National Grid Reference:

383690, 405420

Slice:

A

Site Area (Ha):

105.63

Search Buffer (m):

1000

Site Details:

82, Baguley Crescent

Middleton

MANCHESTER

M24 4GU

Client Details:

Ms C Martin

WYG Environment Planning Transport Ltd

Quay West

Trafford Park Road

Salford Quays

Manchester

M17 1HH



Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	46
Hazardous Substances	-
Geological	50
Industrial Land Use	54
Sensitive Land Use	56
Data Currency	57
Data Suppliers	61
Useful Contacts	62

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0



Summary

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 11	1	19	7	14
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 21			2	1
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature		Yes			
Pollution Incidents to Controlled Waters	pg 22	1	3	13	2
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 25			1	
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 25			2	(*9)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 28	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 33	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 34	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 34		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 34		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 34	29	20	28	24



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 46	2	3	2	
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 47		1		
Local Authority Landfill Coverage	pg 47	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Registered Landfill Sites	pg 48		1	3	
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites	pg 49		1		
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					
Geological					
BGS 1:625,000 Solid Geology	pg 50	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 50	5	1		3
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 51	Yes	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 51	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 52	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 52	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 52	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 53	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 54		4	1	12
Fuel Station Entries	pg 55			1	1
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt	pg 56	2	1		
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 56				1
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 56	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: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SE (N)	0	1	384000 406200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16SW (NE)	0	1	384050 406200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	0	1	384100 406600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (NE)	0	1	384200 405650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (E)	0	1	384250 405650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (NE)	0	1	383750 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (NE)	0	1	383800 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384150 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384200 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	383500 406000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (NE)	0	1	384050 405850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (N)	0	1	383688 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (NE)	0	1	383700 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SW (E)	0	1	384050 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384200 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384250 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11NE (N)	0	1	383750 405650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SE (E)	0	1	384400 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	0	1	384450 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	0	1	384500 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (SE)	0	1	383850 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SW (E)	0	1	384350 405350



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	0	1	384400 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SW (E)	0	1	384350 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15SE (NE)	0	1	384000 405950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	0	1	383900 406450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	0	1	383950 406450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	0	1	383850 406350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	0	1	383900 406350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NW (NE)	0	1	384200 406350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SE (N)	0	1	383688 406150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	383650 406100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SE (N)	0	1	383800 406100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15SE (NE)	0	1	384000 406100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	383600 406050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	383550 406000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15NE (N)	0	1	383950 406400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NW (NE)	0	1	384250 406400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	0	1	384050 406250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16SW (NE)	0	1	384100 406250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A15SW (N)	0	1	383450 406050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NW (NE)	0	1	384100 406300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16NW (NE)	0	1	384150 406300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SE)	0	1	384300 405050



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	A8NW (SE)	0	1	384250 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	0	1	383850 405900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (NE)	0	1	384000 405900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (N)	0	1	383600 405650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	0	1	384050 405150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	0	1	384100 405150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	0	1	384300 405150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (E)	0	1	383800 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (E)	0	1	384450 405150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SE (E)	0	1	384500 405300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (S)	0	1	383700 405300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	0	1	383750 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (NE)	0	1	383800 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (NE)	0	1	383900 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (NE)	0	1	384000 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (NE)	0	1	384050 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (E)	0	1	384250 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (E)	0	1	384300 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (W)	0	1	383688 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (NE)	0	1	383850 405800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (NE)	0	1	384050 405800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (N)	0	1	383650 405750



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	0	1	383750 405750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (NE)	0	1	384150 405750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (E)	0	1	383750 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SW (E)	0	1	384200 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384250 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384300 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (NE)	0	1	384100 405900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (N)	0	1	383688 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	0	1	384400 405300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (SE)	0	1	383800 405250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	0	1	384150 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SE)	0	1	384150 405150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	0	1	384250 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SE)	0	1	384300 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (NE)	0	1	383900 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (NE)	0	1	383950 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384050 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384150 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384300 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SW (E)	0	1	384350 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	0	1	384400 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (NE)	0	1	384150 405700



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (NE)	0	1	384200 405700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384300 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	0	1	384350 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SE (E)	0	1	384500 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SW (E)	0	1	384250 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A7NE (SE)	0	1	383850 405200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A7NE (SE)	0	1	383950 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NE (SE)	0	1	384000 405200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SE)	0	1	384050 405200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (SE)	0	1	383950 405300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	0	1	384450 405300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (SE)	0	1	383900 405250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (SE)	0	1	383950 405250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (E)	0	1	384400 405250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SE)	0	1	384200 405050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (E)	1	1	384350 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	2	1	384000 406850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SW (SE)	2	1	384150 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15SW (N)	12	1	383600 406000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	12	1	383800 405750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	13	1	383850 406900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	13	1	384450 405100



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	19	1	383700 405650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	26	1	383750 405700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (S)	29	1	383750 405250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	33	1	384000 406900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	33	1	384400 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	39	1	384550 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (E)	41	1	384450 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (E)	41	1	384500 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	41	1	384050 406850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (SE)	48	1	384450 405050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (NW)	48	1	383450 405950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NW (N)	48	1	383350 406300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	49	1	384400 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	51	1	383688 405650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (E)	51	1	384500 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	58	1	383700 405700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	67	1	384600 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	72	1	384050 406900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (NW)	76	1	383600 405600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SE (E)	80	1	384650 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	81	1	384100 406850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	84	1	384450 405000



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	A12SE (E)	86	1	384600 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	93	1	383850 406950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NE (SE)	96	1	383900 405050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7SE (SE)	102	1	384000 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7SE (SE)	104	1	384000 404800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	110	1	383688 406800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	113	1	383950 407000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	114	1	383900 407000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NE (S)	114	1	383800 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	115	1	384050 404950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (SE)	119	1	384500 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (SE)	120	1	384550 405050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A15SW (N)	125	1	383350 406250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NE (SE)	125	1	383850 405050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SW (SE)	126	1	384050 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(N)	128	1	384200 406800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	136	1	384700 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NE (SE)	137	1	383900 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	142	1	383700 406850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	144	1	384700 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	155	1	384500 404950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	164	1	383800 407000



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	A7NE (S)	166	1	383850 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	169	1	383750 406950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(N)	169	1	383688 406850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SE (NW)	175	1	383250 406200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (N)	176	1	383550 405800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(E)	178	1	384700 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	180	1	384750 405300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14SE (NW)	182	1	383300 406200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	182	1	384150 406950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(E)	186	1	384750 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (SE)	190	1	384600 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	193	1	384750 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NE (S)	195	1	383688 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	202	1	383800 407050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	203	1	384750 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NW (SW)	208	1	383500 405200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8SE (SE)	225	1	384550 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10NE (NW)	229	1	383300 405850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	235	1	384800 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NE (NE)	240	1	384600 406400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(E)	243	1	384800 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SE (SE)	260	1	384600 404900



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	276	1	383800 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	276	1	384800 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SE (NW)	281	1	383150 406100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8SE (SE)	296	1	384600 404850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8SW (SE)	304	1	384200 404650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7SE (S)	306	1	383750 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	310	1	384750 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	315	1	384000 407200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NE)	340	1	384700 406400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	342	1	384900 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10NE (NW)	349	1	383150 405900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(E)	349	1	384900 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	360	1	383900 404750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A7SE (S)	360	1	383750 404800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8SW (SE)	362	1	384150 404600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NW (S)	373	1	383550 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	375	1	383700 404850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SE (NW)	388	1	383100 406150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	389	1	384200 407200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NE)	390	1	384750 406400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NE)	390	1	384750 406350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SE (NW)	391	1	383100 406050



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	A14SE (NW)	394	1	383100 406100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NW (SW)	395	1	383500 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8SW (SE)	396	1	384050 404600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	399	1	384950 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(E)	409	1	384950 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A4NW (S)	410	1	384050 404550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	412	1	384850 404950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	413	1	383950 404650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	416	1	383700 404800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	422	1	383950 404600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	430	1	385000 405423
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SE)	437	1	384700 404750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SE)	440	1	384800 404850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SE (NW)	441	1	383050 406050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NW (S)	441	1	383500 404950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SE (NW)	443	1	383050 406100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	445	1	383688 404800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (S)	446	1	383900 404650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SE)	450	1	384850 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	456	1	384950 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	458	1	385000 405450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	461	1	383250 406850



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	(E)	472	1	385000 405500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	484	1	383600 407200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	485	1	384950 404950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (NW)	491	1	383000 406000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10NE (NW)	495	1	383050 405750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	498	1	385000 405000
1	Discharge Consents Operator: Mr Broxton Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: 241 Heywood Old Road, Middleton, Manchester, M24 4qr Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016992302 Permit Version: 1 Effective Date: 1st October 1996 Issued Date: 1st October 1996 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Surface Water Drain To R Irk Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A12SE (E)	0	2	384500 405400
2	Discharge Consents Operator: Mr & Mrs A G Hamer Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 302 - 308 Heywood Old Rd, Middleton, Bowlee, Manchester, M24 4qg Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0170/1235 Permit Version: 1 Effective Date: 1st May 1970 Issued Date: 1st May 1970 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	58	2	384403 406430
2	Discharge Consents Operator: Miss Ann Ingram Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 302 - 308 Heywood Old Rd, Middleton, Bowlee, Manchester, M24 4qg Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0170/1235 Permit Version: 1 Effective Date: 1st May 1970 Issued Date: 1st May 1970 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	58	2	384403 406430



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Discharge Consents Operator: Ma & P M Caveney Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 302 - 308 Heywood Old Rd, Middleton, Bowlee, Manchester, M24 4qg Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0170/1235 Permit Version: 1 Effective Date: 1st May 1970 Issued Date: 1st May 1970 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	58	2	384403 406430
2	Discharge Consents Operator: Census Turner Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 302 - 308 Heywood Old Rd, Middleton, Bowlee, Manchester, M24 4qg Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0170/1235 Permit Version: 1 Effective Date: 1st May 1970 Issued Date: 1st May 1970 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	58	2	384403 406430
3	Discharge Consents Operator: Mr. Roy Lowe Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: 276 Heywood Old Rd, Middleton, Manchester, M24 4qg Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 0172/1714 Permit Version: 1 Effective Date: 5th May 1972 Issued Date: 5th May 1972 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A16NE (NE)	86	2	384420 406330
4	Discharge Consents Operator: Susan Taylor Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 395, 397 & 399 Heywood Old Rd, Middleton, Manchester, M24 4gp Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 0172/1854 Permit Version: 1 Effective Date: 17th October 1972 Issued Date: 17th October 1972 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A16NE (NE)	88	2	384370 406520



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	Discharge Consents Operator: Miles Alexander Ridley & Sally Faye Byrne Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 395, 397 & 399 Heywood Old Rd, Middleton, Manchester, M24 4gp Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0172/1854 Permit Version: 1 Effective Date: 17th October 1972 Issued Date: 17th October 1972 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	88	2	384370 406520
4	Discharge Consents Operator: Mr. P. Moss Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 296, 298 & 300 Heywood Old Rd, Middleton, Manchester, M24 4qq Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 0173/1881 Permit Version: 1 Effective Date: 31st January 1973 Issued Date: 31st January 1973 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Unknown Environment: Receiving Water: Unknown Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A16NE (NE)	93	2	384400 406490
4	Discharge Consents Operator: V.C. Parr Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 296, 298 & 300 Heywood Old Rd, Middleton, Manchester, M24 4qq Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0173/1881 Permit Version: 1 Effective Date: 31st January 1973 Issued Date: 31st January 1973 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Unknown Environment: Receiving Water: Unknown Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	93	2	384400 406490
4	Discharge Consents Operator: Gladys Scott Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 296, 298 & 300 Heywood Old Rd, Middleton, Manchester, M24 4qq Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0173/1881 Permit Version: 1 Effective Date: 31st January 1973 Issued Date: 31st January 1973 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Unknown Environment: Receiving Water: Unknown Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A16NE (NE)	93	2	384400 406490



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Discharge Consents Operator: Mr Paluch Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Heywood Farm Stp Nutt Lane, Simister, Prestwich, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016990378 Permit Version: 1 Effective Date: 10th August 1982 Issued Date: Not Supplied Revocation Date: 25th January 1991 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib River Irk Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A11SW (W)	99	2	383450 405500
6	Discharge Consents Operator: Mr Adam J. Heywood Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: 238 Heywood Old Road, Middleton, Manchester, M24 4gq Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 0173/2092 Permit Version: 1 Effective Date: 7th November 1973 Issued Date: 7th November 1973 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Langley Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A16SE (NE)	107	2	384520 406100
7	Discharge Consents Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Simister Lane Ww Ntwk Ps (09013) Rear Of Lower Droughts Farm, Egypt Lane, Prestwich, Bury, M25 2ru Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01bry0062 Permit Version: 3 Effective Date: 10th June 2016 Issued Date: 10th June 2016 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of Whittle Brook Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A15SW (N)	120	2	383370 406210
7	Discharge Consents Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Simister Lane Ww Ntwk Ps (09013) Rear Of Lower Droughts Farm, Egypt Lane, Prestwich, Bury, M25 2ru Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01BRY0062 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 9th June 2016 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Unnamed Watercourse Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 100m	A15SW (N)	120	2	383370 406210



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Discharge Consents Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Simister, Bury Mdc, Prestwich, Lancashire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01bry0062 Permit Version: 3 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of Castle Brook Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A15SW (N)	120	2	383370 406210
7	Discharge Consents Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Simister Sps, Prestwich, Bury, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982166 Permit Version: 1 Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Storm /emergency overflow Discharge: Ditch Environment: Receiving Water: To Ditch Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 10m	A15SW (N)	120	2	383370 406210
7	Discharge Consents Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Simister Lane Ww Ntwk Ps (09013) Rear Of Lower Droughts Farm, Egypt Lane, Prestwich, Bury, M25 2ru Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01bry0062 Permit Version: 1 Effective Date: 1st April 1991 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Sewage Discharges - Unspecified - Water Company Discharge: Into And/Or Watercourse Environment: Receiving Water: Unnamed Watercourse Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A15SW (N)	120	2	383370 406210
8	Discharge Consents Operator: Bass Lease Co Ltd Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Jolly Butcher Inn Bowlee, Middleton, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01m/211 Permit Version: 1 Effective Date: 12th December 1960 Issued Date: Not Supplied Revocation Date: 1st April 1998 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Unknown Environment: Receiving Water: Unknown Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A16NE (NE)	167	2	384500 406300



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	Discharge Consents Operator: Mr R.S. Davenport Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Egypt Farm, Prestwich, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991074 Permit Version: 1 Effective Date: 23rd December 1985 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Castle Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A14NE (N)	193	2	383300 406400
10	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Manchester Old Road Cso, Middleton, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982916 Permit Version: 2 Effective Date: 8th November 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	264	2	384440 404740
10	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Manchester Old Road Cso, Middleton, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982916 Permit Version: 1 Effective Date: 10th May 1995 Issued Date: Not Supplied Revocation Date: 7th November 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A8SE (SE)	264	2	384440 404740
11	Discharge Consents Operator: Mr R S Davenport Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Egypt Farm Swo, Bowlee, Whitefield, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991073 Permit Version: 1 Effective Date: 1st July 1991 Issued Date: Not Supplied Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Castle Brook Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A14NE (NW)	275	2	383200 406300



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	Discharge Consents Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Kelvin Ave/Lister Rd, Rochdale, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01roc0010 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	303	2	384620 404860
13	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dexter Rd Heaton Park Rd Cso 133 Heaton Park Road, .., Manchester, M9 0pe Authority: Environment Agency, North West Region Catchment Area: Irk Reference: 016993739 Permit Version: 2 Effective Date: 1st April 2018 Issued Date: 12th March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	500	2	384150 404470
13	Discharge Consents Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dexter Rd Heaton Park Rd Cso 133 Heaton Park Road, .., Manchester, M9 0pe Authority: Environment Agency, North West Region Catchment Area: Irk Reference: 016993739 Permit Version: 1 Effective Date: 1st June 2005 Issued Date: 1st June 2005 Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	500	2	384150 404470
13	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Dexter Rd Heaton Park Rd Cso 133 Heaton Park Road, .., Manchester, M9 0pe Authority: Environment Agency, North West Region Catchment Area: Irk Reference: 01MAN0126 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 31st May 2005 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: The River Irk Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A4NW (SE)	500	2	384150 404470



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Glenbrook Rd Exter Rd Cso 281vu 15 Glenbrook Road, ., ., Manchester, M9 Opp Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0125 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 24th June 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Unnamed Watercourse Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	548	2	384150 404420
13	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Glenbrook Rd Exter Rd Cso 281vu 15 Glenbrook Road, ., ., Manchester, M9 Opp Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0125 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Into And/Or Watercourse Environment: Receiving Water: Unnamed Watercourse Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A4NW (SE)	548	2	384150 404420
13	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Glenbrook Rd Exter Rd Cso 281vu 15 Glenbrook Road, ., ., Manchester, M9 Opp Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0125 Permit Version: 3 Effective Date: 25th June 2018 Issued Date: 25th June 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	553	2	384149 404415
14	Discharge Consents Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Avenue/Glenbrook, Higher Blackley, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Irk Reference: 016993670 Permit Version: 1 Effective Date: 24th May 2005 Issued Date: 24th May 2005 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A4SW (S)	924	2	384040 404060



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Avenue/Glenbrook, Higher Blackley, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Irk Reference: 01MAN0093 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 23rd May 2005 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A4SW (S)	924	2	384040 404060
14	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Avenue Bridge Cso Victoria Avenue/Beadham Drive, ., Manchester, Greater Manchester, M9 0gr Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0094 Permit Version: 3 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 4th February 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A4SW (S)	934	2	384040 404050
14	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Avenue Bridge Cso Victoria Avenue/Beadham Drive, ., Manchester, Greater Manchester, M9 0gr Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0094 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A4SW (S)	934	2	384040 404050
14	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Avenue Bridge Cso Victoria Avenue/Beadham Drive, ., Manchester, Greater Manchester, M9 0gr Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0094 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A4SW (S)	934	2	384040 404050



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Victoria Avenue Bridge Cso Victoria Avenue/Beadham Drive, ., Manchester, Greater Manchester, M9 0gr Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0094 Permit Version: 4 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A4SW (S)	935	2	384034 404051
15	Discharge Consents Operator: M.D. Homes (North West Ltd) Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: Plots 1-3 Parrenthorn Farm Corday Lane, Prestwich, Manchester, Lancashire, M25 2rp Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: Npswqd006831 Permit Version: 1 Effective Date: 26th February 2009 Issued Date: 26th February 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of Parr Brook Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A9NE (W)	934	2	382598 405636
16	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Middleton Road/Victoria Avenue Cso Middleton Road, ., Manchester, Greater Manchester, M8 4lz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0096 Permit Version: 3 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 21st March 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A3SE (S)	987	2	383860 404060
16	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Middleton Road/Victoria Avenue Cso Middleton Road, ., Manchester, Greater Manchester, M8 4lz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0096 Permit Version: 2 Effective Date: 14th April 2009 Issued Date: 14th April 2009 Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A3SE (S)	987	2	383860 404060



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	Discharge Consents Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Middleton Road/Victoria Avenue Cso Middleton Road, ., Manchester, Greater Manchester, M8 4Lz Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0096 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th April 2009 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Irk Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A3SE (S)	987	2	383860 404060
17	Discharge Consents Operator: United Utilities Water Plc (?) Property Type: WTW/WATER COLLECTION/TREATMENT/SUPPLY Location: Heaton Park Open Reservoir, Off St Margaret'S Road, Prestwich, Manchester, M25 5sw Authority: Environment Agency, North West Region Catchment Area: Irk Reference: 016993810 Permit Version: 1 Effective Date: 9th December 2005 Issued Date: 9th December 2005 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Process Effluent - Water Company (Wtw) Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of River Irk Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A6SW (SW)	990	2	382860 404670
18	Local Authority Pollution Prevention and Controls Name: Persil Service Ltd - C/O Sainsbury'S Ltd Location: 170 Heaton Park Road, Middleton, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/14/07 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	424	3	384226 404532
18	Local Authority Pollution Prevention and Controls Name: Sainsbury'S Supermarkets Ltd Location: 170 Heaton Park Road, Blackley, MANCHESTER, Lancashire, M9 0GH Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/033/05 Dated: 9th December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Manually positioned to the address or location	A4NW (SE)	438	3	384217 404519
19	Local Authority Pollution Prevention and Controls Name: Kp Hill Service Station Location: 355 Victoria Avenue, Higher Blackley, MANCHESTER, M9 8WQ Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/017/05 Dated: 20th December 2001 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Automatically positioned to the address	A4SE (SE)	929	3	384694 404120
	Nearest Surface Water Feature	A12SW (E)	0	-	384288 405532



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	Pollution Incidents to Controlled Waters Property Type: Farm Drainage Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Organic Wastes: Dairy / Parlour Washings Note: Tributary River Irk Incident Date: 18th September 1994 Incident Reference: 94612092 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A12NE (E)	0	2	384400 405700
21	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected; None Pollution Found Incident Date: 25th November 1995 Incident Reference: 95612850 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NE)	22	2	384400 405800
22	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Middleton, MANCHESTER Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Foam Robert McBrides Incident Date: 2nd February 1998 Incident Reference: SO980221 Catchment Area: Irk Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (SE)	119	2	384501 405001
23	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: Tributary River Roch Incident Date: 30th March 1994 Incident Reference: 94610582 Catchment Area: Roch Receiving Water: Not Given Cause of Incident: Poor/Inadequate Maintenance Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NE (NW)	175	2	383300 406300
24	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Not Given Note: River Irk; None Pollution Found Incident Date: 11th August 1993 Incident Reference: 93611584 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (SE)	253	2	384300 404700
25	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Inert Suspended Solids Note: River Irk Incident Date: 18th August 1993 Incident Reference: 93612359 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	261	2	384500 404800



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Not Supplied Incident Date: 15th August 1995 Incident Reference: 95612091 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	265	2	384505 404800
25	Pollution Incidents to Controlled Waters Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Detergents/Surfactant Note: River Irk Incident Date: 28th September 1994 Incident Reference: 94612168 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	265	2	384500 404795
25	Pollution Incidents to Controlled Waters Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: River Irk Incident Date: 24th February 1995 Incident Reference: 95610379 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	268	2	384505 404795
26	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: River Irk Incident Date: 7th June 1995 Incident Reference: 95611361 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	332	2	384600 404800
27	Pollution Incidents to Controlled Waters Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: River Irk Incident Date: 29th July 1995 Incident Reference: 95611904 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	333	2	384500 404700
28	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewage Treatment Works Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Sewage - Treated Effluent Note: River Irk Incident Date: 28th April 1993 Incident Reference: 93610874 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (SE)	352	2	384300 404600



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewage Treatment Works Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Unknown Note: River Irk Incident Date: 22nd February 1993 Incident Reference: 93610302 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	371	2	384400 404600
29	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewage Treatment Works Location: Foam On Irk Under Motorway, Heaton Park Authority: Environment Agency, North West Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 11th July 1998 Incident Reference: SO981254 Catchment Area: Irk Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	378	2	384405 404595
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: River Irk Incident Date: 21st July 1995 Incident Reference: 95611829 Catchment Area: Irk 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	A4NW (SE)	452	2	384300 404500
30	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Not Given Note: None Pollution Found Incident Date: 10th September 1992 Incident Reference: 92611634 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A4NW (SE)	457	2	384300 404495
31	Pollution Incidents to Controlled Waters Property Type: Not Given Location: BLACKLEY Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Irk; Foam Incident Date: 3rd April 1997 Incident Reference: 97610541 Catchment Area: Irk Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A4NW (SE)	487	2	384100 404500
32	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Not Supplied Incident Date: 11th November 1995 Incident Reference: 95612776 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Land Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A4NE (SE)	502	2	384500 404500



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Natural Foam Incident Date: 18th April 1996 Incident Reference: 96610840 Catchment Area: Irk Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A3NE (S)	533	2	384000 404500
	River Quality Name: Irk GQA Grade: River Quality E Reach: Wince Bk To Moston Bk Estimated Distance (km): 10.3 Flow Rate: Flow less than 2.5 cumecs Flow Type: River Year: 2000	A4NW (SE)	361	2	384221 404459
34	Water Abstractions Operator: Oakbest Limited Licence Number: 2569005041 Permit Version: Not Supplied Location: Two Boreholes, Higher Blackley, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Manufacturing Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 1818 Yearly Rate (m3): 181840 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	A8SE (SE)	376	2	384400 404595
35	Water Abstractions Operator: Oakbest Ltd Licence Number: 2569005042 Permit Version: Not Supplied Location: Reservoir Fed By Un-Named Tributary, River Irk; Heaton Park, HIGHER BLACKLEY Authority: Environment Agency, North West Region Abstraction: Manufacturing Abstraction Type: Not Supplied Source: River Daily Rate (m3): 623 Yearly Rate (m3): 109104 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	A7SE (S)	472	2	383800 404700
	Water Abstractions Operator: Rexmore Textiles Limited Licence Number: 2569005047 Permit Version: Not Supplied Location: Un-Named Tributary Of River Irk, Heaton Park, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Boiler Feed & Drinking; Cooking; Sanitary; Washing For Industrial Premises & Manufacturing Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 546 Yearly Rate (m3): 122742 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	A3SW (S)	1278	2	383400 404000



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Onsite Central Limited Licence Number: Nw/069/0004/002 Permit Version: 1 Location: Point A Whitefield Brook At Whitefield, Manchester 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: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 27 November Permit Start Date: 1st November 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (W)	1463	2	382063 405654
	Water Abstractions Operator: Onsite Central Limited Licence Number: Nw/069/0004/002 Permit Version: 1 Location: Point B On Whitefield Brooke Whitefield, Manchester 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: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 27 November Permit Start Date: 1st November 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1676	2	381829 405811
	Water Abstractions Operator: Onsite Central Limited Licence Number: Nw/069/0004/002 Permit Version: 1 Location: Point C On Whitfield Brook 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: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 27 November Permit Start Date: 1st November 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1874	2	381610 406123
	Water Abstractions Operator: British Cables Company Limited Licence Number: 2569005044 Permit Version: 106 Location: Boreholes X 2 At Blackley Manchester Authority: Environment Agency, North West Region Abstraction: Metal: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land & Premises At Blackley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th October 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1989	2	384610 402990



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Bt Cables Limited Licence Number: 2569005044 Permit Version: 105 Location: Boreholes X 2 At Blackley Manchester Authority: Environment Agency, North West Region Abstraction: Metal: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land & Premises At Blackley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th October 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1989	2	384610 402990
	Water Abstractions Operator: Manchester Cables Ltd Licence Number: 2569005044 Permit Version: 104 Location: Boreholes X 2 At Blackley Manchester Authority: Environment Agency, North West Region Abstraction: Metal: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land & Premises At Blackley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th May 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1989	2	384610 402990
	Water Abstractions Operator: Belden (Uk) Ltd Licence Number: 2569005044 Permit Version: 103 Location: Boreholes X 2 At Blackley Manchester Authority: Environment Agency, North West Region Abstraction: Metal: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land & Premises At Blackley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th November 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1989	2	384610 402990
	Water Abstractions Operator: Belden (Uk) Ltd Licence Number: 2569005044 Permit Version: 102 Location: 2 Boreholes At Blackley, Manchester \$121 Authority: Environment Agency, North West Region Abstraction: Metal: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Land & Premises At Blackley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 3rd April 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1989	2	384610 402990



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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: High Superficial Recharge: High	A11SE (W)	0	4	383688 405423
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: High Superficial Recharge: High	A11SE (E)	0	4	383983 405316
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: High Superficial Recharge: High	A11SE (NE)	0	4	383699 405447
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: High Superficial Recharge: High	A11SE (E)	0	4	383985 405320



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A8NE (E)	0	4	384362 405155
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A7NE (SE)	0	4	384000 405239
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A11SE (E)	0	4	384000 405314
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A11SE (E)	0	4	384000 405423



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A11SE (E)	0	4	384000 405352
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A15SE (N)	0	4	383766 406000
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A15SW (N)	0	4	383468 406158
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A15NE (N)	0	4	383924 406312



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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Superficial Recharge: Low	(N)	0	4	383896 406779
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Superficial Recharge: Low	A15SE (NE)	0	4	384000 406000
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Superficial Recharge: Low	A15NE (N)	0	4	384000 406319
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Superficial Recharge: Low	A16NW (N)	0	4	384155 406557



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Superficial Recharge: Low	(N)	0	4	384000 406793
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: >10m Superficial Thickness: High Superficial Recharge: High	A8NW (SE)	0	4	384108 405000
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: >10m Superficial Thickness: High Superficial Recharge: High	A11NW (N)	0	4	383669 405883
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: >10m Superficial Thickness: Low Superficial Recharge: Low	A8NW (SE)	0	4	384312 405077



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A12SE (E)	0	4	384474 405336
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial High Recharge:	A8NW (SE)	0	4	384067 404986
	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: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A15SE (N)	0	4	383688 406000
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Unproductive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: Superficial >10m Thickness: Superficial Low Recharge:	A14SE (NW)	0	4	383341 406084
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11SE (NE)	0	4	383699 405447
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A7NE (S)	0	4	383688 405000
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A11SE (W)	0	4	383688 405423



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A8NE (E)	0	4	384362 405155
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A8NW (SE)	0	4	384108 405000
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A11SE (W)	0	4	383688 405423
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A7NW (S)	0	4	383613 405000
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11SW (SW)	0	4	383504 405296
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A8NW (SE)	0	4	384312 405077
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11SE (E)	0	4	383983 405316
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A15SW (N)	0	4	383468 406158
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A15NE (N)	0	4	383924 406312
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A16NW (N)	0	4	384155 406557
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	(N)	0	4	383896 406779
	Superficial Aquifer Designations Aquifer Designation: Unproductive Strata	A14SE (NW)	0	4	383341 406084
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A8SW (SE)	243	2	384280 404675
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A8SW (SE)	243	2	384272 404663
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
36	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 346.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (E)	0	5	384208 405634
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 139.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (E)	0	5	384211 405626



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (E)	0	5	384288 405532
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (E)	0	5	384291 405528
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (E)	0	5	384311 405509
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (E)	0	5	384313 405508
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (E)	0	5	384319 405503
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 92.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (E)	0	5	384333 405492
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 282.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A8NE (SE)	0	5	384384 405076
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 216.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	0	5	384400 405413
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 126.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	0	5	384406 405439



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	0	5	384538 405343
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	0	5	384550 405315
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 116.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	0	5	384557 405300
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 96.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	0	5	384557 405300
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 288.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (NE)	0	5	384024 405776
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A15SW (N)	0	5	383552 406119
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A15SW (N)	0	5	383553 406120
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A15SW (N)	0	5	383588 406150
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 193.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A11NE (NE)	0	5	383848 405727



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (NE)	0	5	384025 405771
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 124.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (NE)	0	5	384025 405771
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (NE)	0	5	384115 405713
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (NE)	0	5	384119 405711
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (NE)	0	5	384131 405695
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 106.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (NE)	0	5	384145 405671
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 352.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A8NE (SE)	0	5	384384 405076
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 50.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A8NW (SE)	0	5	384344 405105
64	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: Mersey Primacy: 1	A8NW (SE)	0	5	384342 405107



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 90.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A11SW (N)	4	5	383647 405557
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A11NE (N)	4	5	383722 405608
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 174.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A11NE (N)	4	5	383722 405608
68	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A11NE (N)	5	5	383706 405608
69	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: Mersey Primacy: 1	A11NE (NE)	11	5	383848 405727
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NE (NE)	16	5	384451 405795
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NE (NE)	16	5	384441 405800
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NE (NE)	16	5	384443 405799
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 218.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A15SW (N)	32	5	383368 406212



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 101.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	64	5	384592 405416
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 63.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	79	5	384483 405536
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 335.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NE (SE)	81	5	383902 405100
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 318.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	83	5	384639 405350
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 126.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	113	5	384528 405582
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	137	5	384638 405497
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SE (E)	137	5	384638 405497
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 257.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A8SW (SE)	139	5	384146 404886
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 86.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A14SE (NW)	211	5	383275 406226



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 250.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	243	5	383380 405199
84	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 31.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A11NW (NW)	243	5	383411 405646
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 475.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A14NE (NW)	253	5	383222 406294
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 138.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A8SW (SE)	255	5	384289 404673
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 262.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A8SE (SE)	263	5	384415 404725
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 512.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A8SW (SE)	279	5	384289 404673
89	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 219.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	284	5	383390 405161
90	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	284	5	383390 405161
91	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	292	5	383394 405151



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 139.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	295	5	383476 405110
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	332	5	383474 405077
94	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 19.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	337	5	383474 405072
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	354	5	383477 405053
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 30.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	382	5	383490 405017
97	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (SW)	404	5	383501 404990
98	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	412	5	383798 404771
99	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (S)	413	5	383510 404977
100	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 70.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	418	5	383801 404762



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (S)	431	5	383515 404953
102	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 210.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7NW (S)	445	5	383506 404942
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 137.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A8SE (SE)	454	5	384674 404701
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 118.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A8SE (SE)	454	5	384674 404701
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	461	5	383841 404691
106	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	461	5	383840 404692
107	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	462	5	383831 404694
108	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 31.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	463	5	383800 404697
109	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 116.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	474	5	383755 404697



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	475	5	383871 404660
111	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	488	5	383858 404653
112	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	489	5	383856 404652
113	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 19.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A6NE (W)	519	5	383034 405206
114	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 277.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SE (S)	523	5	383843 404622
115	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A6NE (W)	530	5	383031 405187
116	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A6NE (W)	533	5	383030 405181
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A6NE (W)	536	5	383029 405177
118	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 6.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A6NE (W)	545	5	383028 405159



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SW (S)	549	5	383685 404683
120	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 10.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SW (S)	554	5	383679 404680
121	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 179.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Blackfish Pond Catchment Name: Mersey Primacy: 1	A7SW (S)	562	5	383518 404741
122	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SW (S)	602	5	383489 404758
123	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 53.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A7SW (S)	607	5	383443 404787
124	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 342.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A14NW (NW)	647	5	382848 406501
125	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 118.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A3NE (S)	674	5	383936 404374
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A3NE (S)	674	5	383936 404374
127	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A3NE (S)	722	5	383903 404338



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A3NE (S)	723	5	383908 404333
129	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 307.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A3NE (S)	724	5	384009 404281
130	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A3NE (S)	748	5	383918 404293
131	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A3NE (S)	753	5	383891 404301
132	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 205.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A9SE (W)	922	5	382586 405457
133	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 116.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A3SE (S)	985	5	383936 404017
134	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 184.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A6SW (SW)	988	5	382871 404665
135	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 59.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A3SE (S)	990	5	383987 404006
136	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 197.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Irk Catchment Name: Mersey Primacy: 1	A4SW (S)	997	5	384038 403985



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	Historical Landfill Sites Licence Holder: Terry Adams Limited Location: Bluebell Lane, Bowlee, Bury Name: Bowlee Sand QuarryBluebell Lane Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD30185 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: RD/LIC/338/84	A15NE (N)	0	2	383846 406339
138	Historical Landfill Sites Licence Holder: T J Murphy Location: Simister, Bury, Greater Manchester Name: Land at Egypt Lane Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16055 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: C122, 01140	A15SW (N)	0	2	383534 406010
139	Historical Landfill Sites Licence Holder: Heaton Mills Printing Company Limited Location: Rochdale, Greater Manchester Name: Land at Kelvin Avenue Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD18072 First Input Date: Not Supplied Last Input Date: Not Supplied 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: RD/LIC/133/77/P2,D065	A8NE (SE)	135	2	384485 404958
140	Historical Landfill Sites Licence Holder: Costain Engineering and Construction Limited Location: Bridle Road, Simister, Bury, Greater Manchester Name: Land to the west of the M66 motorway Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16120 First Input Date: 1st November 1994 Last Input Date: Not Supplied Specified Waste Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9155 BGS Ref: Not Supplied Other Ref: RD/LIC/1064/94, C099	A11SW (W)	141	2	383376 405367
141	Historical Landfill Sites Licence Holder: Costain Engineering and Construction Limited Location: Farm Lane, Simister, Bury, Greater Manchester Name: Land to the South of Whitehouse Farm Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16086 First Input Date: 31st October 1993 Last Input Date: 25th May 1994 Specified Waste Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9307 BGS Ref: Not Supplied Other Ref: C096, RD/LIC/1046/93	A11NW (NW)	239	2	383370 405615



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
142	Historical Landfill Sites Licence Holder: Not Supplied Location: Heywood Road, Simister, Bury, Greater Manchester Name: Land at Heaton Park Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD18071 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: F055	A7NW (S)	308	2	383598 405048
143	Historical Landfill Sites Licence Holder: Wills Fabrics Limited Location: Higher Blackley, Manchester, Greater Manchester Name: Land Off Heaton Park Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16216 First Input Date: 31st December 1947 Last Input Date: 31st December 1986 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9032 BGS Ref: Not Supplied Other Ref: F034, RD/LIC/133/77	A8SE (SE)	353	2	384486 404664
144	Licensed Waste Management Facilities (Locations) Licence Number: 53602 Location: 124 Simister Lane, Prestwich, Manchester, M25 2SB Operator Name: M & M Oils Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Physical Treatment Facilities Licence Status: Issued Issued: 30th May 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (N)	22	2	383769 405872
	Local Authority Landfill Coverage Name: Bury Metropolitan Borough Council - Has not been able to supply Landfill data		0	6	383688 405423
	Local Authority Landfill Coverage Name: Rochdale Metropolitan Borough Council - Has no landfill data to supply		0	7	384491 405630
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		50	8	383658 405308



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
145	Registered Landfill Sites Licence Holder: T J Murphy Ltd Licence Reference: 01140 Site Location: Egypt Street, Simister, Bury, Lancashire Licence Easting: 383530 Licence Northing: 406040 Operator Location: Lancaster House, 70-76 Blackburn Street, Radcliffe, MANCHESTER, Greater Manchester, M26 9TS Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence has completion certificateSurrendered Dated: 1st August 1996 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Max.Waste Permitted By Licence Rubble,Hardcore,Stone,Brick,Concrete Soil, Clay, Sand Prohibited Waste: Contaminated Soil Foundry Sand, Filter Sand Waste N.O.S.	A15SW (N)	9	2	383530 406040
146	Registered Landfill Sites Licence Holder: Costain Engineering & Construction Ltd Licence Reference: 01064 Site Location: Land North West Of M66, Simister, Bury, Lancashire Licence Easting: 383200 Licence Northing: 406400 Operator Location: Costain House, Nicholsons Walk, Maidenhead, Berkshire Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Status: Licence has completion certificateSurrendered Dated: 1st August 1994 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Soil, Clay, Sand Prohibited Waste: Liquid Wastes Sludge Wastes Special Wastes Waste In Drums Waste In Skips Waste N.O.S Whether/Not Pack./Pre-Trt	A14NE (NW)	289	2	383200 406400
147	Registered Landfill Sites Licence Holder: Wills Fabrics Ltd Licence Reference: 00133/77/M3 Site Location: Heaton Park Road, Higher Blackley, Manchester, Greater Manchester Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: 44 George Street, Manchester, Greater Manchester Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 22nd September 1983 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Accuracy: Good Authorised Waste: Construction And Demolition Wastes Prohibited Waste: Liquid/Slurry/Sludge Wastes	A8SE (SE)	340	2	384495 404688



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
148	Registered Landfill Sites Licence Holder: Costain Engineering & Construction Ltd Licence Reference: 01046 Site Location: South Of Whitehouse Farm, Simister Lane, Bury, Lancashire Licence Easting: 383300 Licence Northing: 405700 Operator Location: Costain House, Nicholsons Walk, Maidenhead, Berkshire Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Status: Licence has completion certificateSurrendered Dated: 1st February 1994 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Accuracy: Not Applicable Authorised Waste: Uncontam.Soil, Clay, Sand Prohibited Waste: Asbestos Liquid Wastes Skip Waste Sludge Wastes Special Wastes Waste In Drums Waste N.O.S.	A10NE (NW)	349	2	383300 405700
149	Registered Waste Treatment or Disposal Sites Licence Holder: M & M Oils Ltd Licence Reference: 01005 Site Location: Brook Farm, 124 Simister Lane, Prestwich, Manchester, Greater Manchester, M25 2sb Operator Location: Lane End Farm, Hopwood, HEYWOOD, Lancashire, OL10 2JE Authority: Environment Agency - North West Region, South Area Site Category: Treatment Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 1st May 1996 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Waste Permitted By Licence Waste Vegetable Oils Prohibited Waste: Waste N.O.S.	A11NE (N)	51	2	383750 405850



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Pennine Middle Coal Measures Formation And South Wales Middle Coal Measures Formation (Undifferentiated)	A11SE (NE)	0	1	383714 405478
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A11SE (W)	0	1	383688 405423
	BGS 1:625,000 Solid Geology Description: Pennine Lower Coal Measures Formation And South Wales Lower Coal Measures Formation (Undifferentiated)	A12NW (NE)	0	1	384127 405675
150	BGS Recorded Mineral Sites Site Name: Bow Lee Sand Pit Location: Bowlee, Middleton, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96882 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A15NE (N)	0	1	383994 406496
151	BGS Recorded Mineral Sites Site Name: Bow Lee Sand Pit Location: Bowlee, Middleton, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96883 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A15NE (N)	0	1	383963 406385
152	BGS Recorded Mineral Sites Site Name: Hazel Hillocks Sand Pit Location: Simister, Middleton, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96891 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Till, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A11SE (N)	0	1	383730 405576
153	BGS Recorded Mineral Sites Site Name: Old Hall Gravel Pit Location: Rhodes, Middleton, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96894 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Till, Devensian Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SW (E)	0	1	384130 405383
154	BGS Recorded Mineral Sites Site Name: Old Hall Sand Pit Location: Simister, Middleton, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96924 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Till, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A12SE (E)	0	1	384372 405281



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	BGS Recorded Mineral Sites Site Name: Hanging Birch Sand Pit Location: Simister, Middleton, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96895 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A12SE (E)	107	1	384667 405320
156	BGS Recorded Mineral Sites Site Name: Heaton Mill Sand Pit Location: Higher Blackley, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96898 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A4NE (SE)	645	1	384654 404425
157	BGS Recorded Mineral Sites Site Name: Heaton Park Sand Pit Location: Higher Blackley, Manchester, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96897 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Till, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A3NE (S)	773	1	383871 404298
158	BGS Recorded Mineral Sites Site Name: Cold Gate Sand Pit Location: Simister, Middleton, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96890 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A14SW (NW)	778	1	382713 406056
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A11SE (W)	0	9	383688 405423
	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	A7NE (S)	0	1	383688 405000
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	383688 405423
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A14SE (NW)	0	1	383342 405976
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A14NE (NW)	61	1	383024 406286
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	145	1	384362 404827



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	383688 405423
	Potential for Compressible Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A14SE (NW)	0	1	383342 405976
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	383688 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A14NE (NW)	61	1	383024 406286
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	145	1	384362 404827
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	383688 405423
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	383688 405000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A12SE (E)	0	1	384455 405435
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11NE (N)	0	1	383766 405632
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	0	1	384211 405655
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	383688 405423
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	383688 405000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A12SE (E)	8	1	384417 405465
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A12SE (E)	152	1	384688 405415
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	180	1	384451 404865
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A14SE (NW)	185	1	383121 406083
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A8SW (SE)	197	1	384359 404770
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A7NW (SW)	207	1	383499 405201
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	218	1	384361 404749
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A7NW (SW)	247	1	383468 405168
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	383688 405000



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	A11SE (W)	0	1	383688 405423
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	145	1	384362 404827
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A14SE (NW)	0	1	383335 405974
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	383688 405423
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	383688 405000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A15NE (N)	0	1	383926 406308
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (N)	0	1	383661 405489
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A16NW (N)	0	1	384156 406558
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A14NE (NW)	61	1	383024 406286
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (SW)	102	1	383511 405307
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NW (S)	145	1	383603 405000
	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	A7NE (S)	0	1	383688 405001
	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	A11SE (W)	0	1	383688 405423
	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	A7NE (S)	0	1	383688 405001
	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	A11SE (W)	0	1	383688 405423



Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
159	Contemporary Trade Directory Entries Name: Metal Stitching Services Ltd Location: Parkwood Bungalow, Old Hall Lane, Prestwich, Manchester, M25 2SL Classification: Plant & Machinery Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (N)	18	-	383644 405563
160	Contemporary Trade Directory Entries Name: Lancashire Vehicle Sales Location: 282, Heywood Old Road, Middleton, Manchester, Lancashire, M24 4QG Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the address or location	A16NE (NE)	55	-	384396 406350
161	Contemporary Trade Directory Entries Name: M M Oils Ltd Location: Simister La, Prestwich, Manchester, Lancashire, M25 2SB Classification: Oils - Edible Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A15SW (N)	71	-	383517 405960
162	Contemporary Trade Directory Entries Name: Car Shop Megastore Location: Manchester Old Rd, Middleton, Manchester, Lancashire, M24 4RF Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A8NE (E)	189	-	384669 405091
163	Contemporary Trade Directory Entries Name: Currys Location: Heaton Park Road, Manchester, M9 0QS Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (SE)	384	-	384398 404586
164	Contemporary Trade Directory Entries Name: Persil Service Ltd Location: 170 Heaton Pk Rd West, Manchester, Lancashire, M9 0TZ Classification: Dry Cleaners Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A4NW (SE)	511	-	384124 404466
165	Contemporary Trade Directory Entries Name: Mojo Rooster Guitars Ltd Location: Flat 17, Arundel Court, Beadham Drive, Manchester, M9 0GY Classification: Musical Instrument - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A4NW (S)	714	-	384064 404273
166	Contemporary Trade Directory Entries Name: Cleaning Service Location: 1, Melverley Road, Manchester, M9 0PR Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A4SW (SE)	749	-	384209 404206
167	Contemporary Trade Directory Entries Name: Claims Solutions Location: 454, Victoria Avenue, Manchester, M9 0PL Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A4SE (SE)	765	-	384365 404192
168	Contemporary Trade Directory Entries Name: D T R Supplies Location: 373, Victoria Avenue, Manchester, M9 8WQ Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A4SE (SE)	875	-	384624 404147
169	Contemporary Trade Directory Entries Name: Esso Location: 355, Victoria Avenue, Manchester, M9 8WQ Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A4SE (SE)	918	-	384693 404131
169	Contemporary Trade Directory Entries Name: Tex'S Tyres Location: 355, Victoria Avenue, Manchester, M9 8WQ Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A4SE (SE)	928	-	384694 404120



Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
169	Contemporary Trade Directory Entries Name: K P Hill Service Station Location: 355, Victoria Avenue, Manchester, M9 8WQ Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A4SE (SE)	928	-	384694 404120
169	Contemporary Trade Directory Entries Name: K P Hill Service Station Location: 355, Victoria Avenue, Manchester, M9 8WQ Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A4SE (SE)	929	-	384694 404120
169	Contemporary Trade Directory Entries Name: Blakeley Tyres Location: 355, Victoria Avenue, Manchester, M9 8WQ Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A4SE (SE)	929	-	384694 404120
170	Contemporary Trade Directory Entries Name: Karate Cards Location: 100, Broomhall Road, Manchester, M9 8PA Classification: Greeting Card Publishers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A4SE (SE)	927	-	384624 404090
171	Contemporary Trade Directory Entries Name: Atkinsons Location: 19, Stanwick Avenue, Manchester, M9 8PD Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A4SE (SE)	975	-	384444 403991
172	Fuel Station Entries Name: Sainsburys Heaton Park Location: Heaton Park Heaton Park Road West, , Manchester, Greater Manchester, M9 0QS Brand: Sainsburys Premises Type: Hypermarket Status: Open Positional Accuracy: Manually positioned to the address or location	A4NW (SE)	436	-	384222 404520
173	Fuel Station Entries Name: K P Hill Service Location: 365, Victoria Avenue Broomhall Road, , Manchester, Greater Manchester, M9 8WQ Brand: Esso Premises Type: Petrol Station Status: Open Positional Accuracy: Automatically positioned to the address	A4SE (SE)	929	-	384694 404120



Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
174	Areas of Adopted Green Belt Authority: Rochdale Metropolitan Borough Council Plan Name: Rochdale Unitary Development Plan Status: Adopted Plan Date: 30th June 2006	A16NE (NE)	0	11	384373 406358
175	Areas of Adopted Green Belt Authority: Bury Metropolitan Borough Council Plan Name: Bury Unitary Development Plan Status: Adopted Plan Date: 29th August 1997	A11SE (W)	0	6	383688 405423
176	Areas of Adopted Green Belt Authority: Manchester City Council Plan Name: Proposals Map Status: Adopted Plan Date: 11th July 2012	A11SW (SW)	103	12	383607 405271
177	Local Nature Reserves Name: Blackley Forest Multiple Area: Y Area (m2): 342102.94 Source: Natural England Designation Date: 20th June 2005	A4NW (S)	505	10	384071 404478
178	Nitrate Vulnerable Zones Name: River Irk (Moston Brook To River Irwell) Nvz Description: Surface Water Source: Environment Agency, Head Office	A11SE (W)	0	4	383688 405423



Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Salford City Council - Environmental Health Department Bury Metropolitan Borough Council - Environmental Health Department Rochdale Metropolitan Borough Council - Environmental Health Department Manchester City Council - Environmental Health Department	November 2013 October 2013 October 2017 September 2014	Annual Rolling Update Annual Rolling Update Annually Annual Rolling Update
Discharge Consents Environment Agency - North West Region	January 2019	Quarterly
Enforcement and Prohibition Notices Environment Agency - North West Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - North West Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - North West Region	January 2019	Quarterly
Local Authority Integrated Pollution Prevention And Control Bury Metropolitan Borough Council - Environmental Health Department Rochdale Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department Manchester City Council - Environmental Health Department	February 2015 July 2014 March 2015 September 2014	Variable Variable Variable Variable
Local Authority Pollution Prevention and Controls Bury Metropolitan Borough Council - Environmental Health Department Rochdale Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department Manchester City Council - Environmental Health Department	February 2015 July 2014 March 2015 September 2014	Not Applicable Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Bury Metropolitan Borough Council - Environmental Health Department Rochdale Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department Manchester City Council - Environmental Health Department	February 2015 July 2014 March 2015 September 2014	Variable Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	January 2019	
Pollution Incidents to Controlled Waters Environment Agency - North West Region	January 2000	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North West Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - North West Region	March 2013	Annual Rolling Update
Registered Radioactive Substances Environment Agency - North West Region	June 2016	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - North West Region - South Area	January 2019	Quarterly
Water Abstractions Environment Agency - North West Region	January 2019	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	Annually



Agency & Hydrological	Version	Update Cycle
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	January 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	February 2019	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	February 2019	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	February 2019	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	February 2019	Quarterly
Flood Defences Environment Agency - Head Office	February 2019	Quarterly
OS Water Network Lines Ordnance Survey	January 2019	Quarterly
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually
Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	July 2018	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - North West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North West Region - South Area	July 2018	Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North West Region - South Area	January 2019	Quarterly
Local Authority Landfill Coverage Bury Metropolitan Borough Council Manchester City Council - Planning Department Rochdale Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Bury Metropolitan Borough Council Manchester City Council - Planning Department Rochdale Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable



Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Bury Metropolitan Borough Council Manchester City Council - Planning Department Rochdale Metropolitan Borough Council Salford City Council	February 2016 February 2016 February 2016 June 2016	Variable Variable Variable Variable
Planning Hazardous Substance Consents Bury Metropolitan Borough Council Manchester City Council - Planning Department Rochdale Metropolitan Borough Council Salford City Council	February 2016 February 2016 February 2016 June 2016	Variable Variable Variable Variable
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2019	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	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	January 2019	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually



Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2019	Quarterly
Fuel Station Entries Catalist Ltd - Experian	March 2019	Quarterly
Gas Pipelines National Grid	July 2014	
Underground Electrical Cables National Grid	December 2015	
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	August 2018	Bi-Annually
Areas of Adopted Green Belt Bury Metropolitan Borough Council Manchester City Council Rochdale Metropolitan Borough Council Salford City Council	March 2019 March 2019 March 2019 March 2019	As notified As notified As notified As notified
Areas of Unadopted Green Belt Bury Metropolitan Borough Council Manchester City Council Rochdale Metropolitan Borough Council Salford City Council	March 2019 March 2019 March 2019 March 2019	As notified As notified As notified As notified
Areas of Outstanding Natural Beauty Natural England	August 2018	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	March 2019	Bi-Annually
Marine Nature Reserves Natural England	January 2018	Bi-Annually
National Nature Reserves Natural England	August 2018	Bi-Annually
National Parks Natural England	April 2017	Bi-Annually
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	April 2019	Bi-Annually
Sites of Special Scientific Interest Natural England	March 2019	Bi-Annually
Special Areas of Conservation Natural England	August 2018	Bi-Annually
Special Protection Areas Natural England	April 2019	Bi-Annually



Data Suppliers

A selection of organisations who provide data within this report

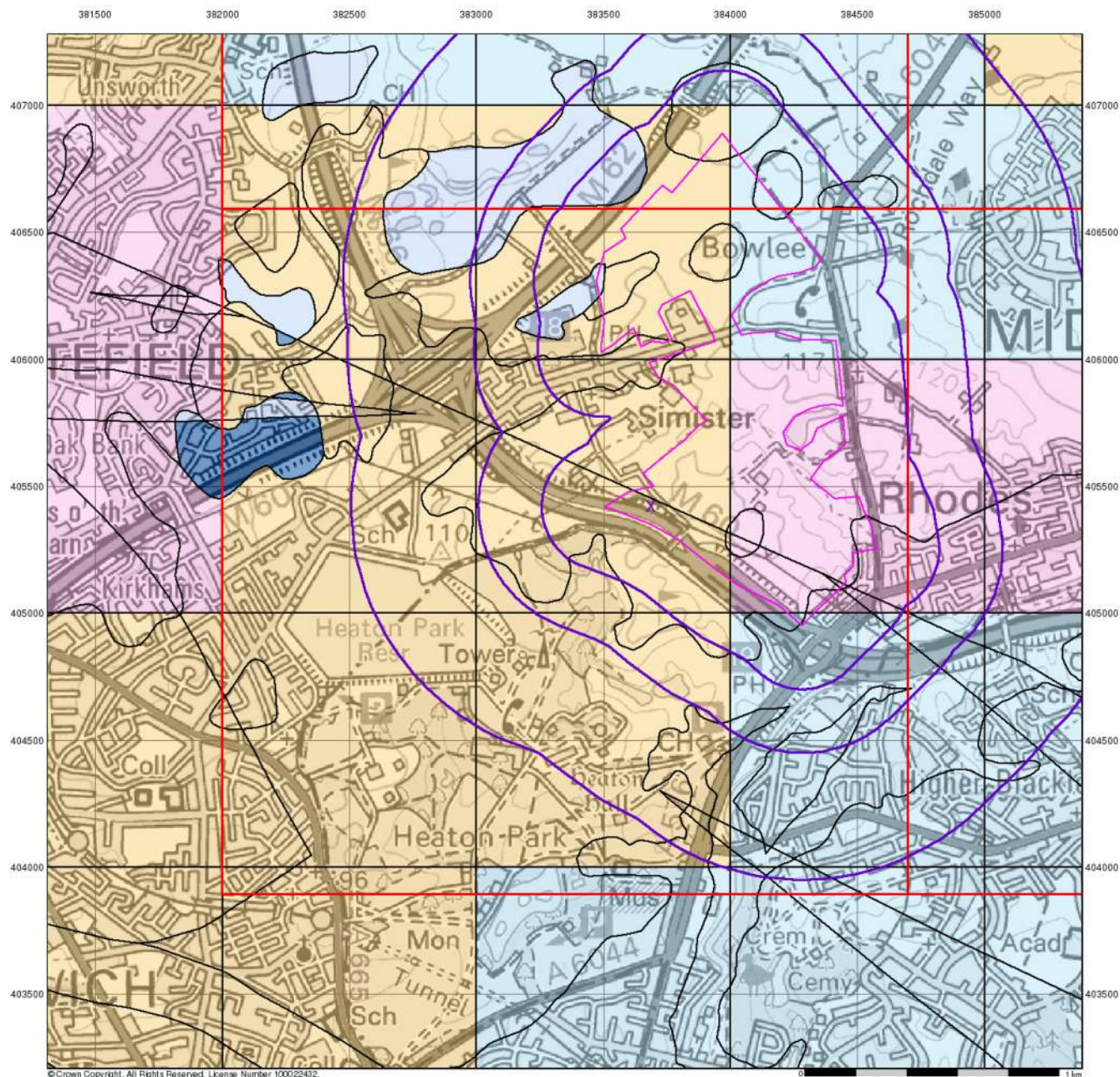
Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	



Useful Contacts

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk 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	Manchester City Council - Environmental Health Department PO Box 463, Town Hall Extension, Albert Square, Manchester, Greater Manchester, M60 3NY	Telephone: 0161 234 4884 / 234 4873. Fax: 0161 234 4508 Website: www.manchester.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.gov.uk
6	Bury Metropolitan Borough Council Craig House, Bank Street, Bury, Lancashire, BL9 0DN	Telephone: 0161 253 5000 Fax: 0161 705 5290 Website: www.bury.gov.uk
7	Rochdale Metropolitan Borough Council - Environmental Health Department P O Box 32, Telegraph House, Ballie Street, Rochdale, Greater Manchester, OL16 1JH	Telephone: 01706 864139 Fax: 01706 864185 Website: www.rochdale.gov.uk
8	Manchester City Council - Planning Department Town Hall, Manchester, Greater Manchester, M60 2LA	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.gov.uk
9	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
10	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
11	Rochdale Metropolitan Borough Council PO Box 15, Town Hall, Rochdale, Greater Manchester, OL16 1AB	Telephone: 01706 647474 Fax: 01706 59475 Website: www.rochdale.gov.uk
12	Manchester City Council Town Hall, Albert Square, Manchester, Greater Manchester, M60 2JT	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.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 Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



Groundwater Vulnerability

General

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

Agency and Hydrological

Bedrock Aquifers

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

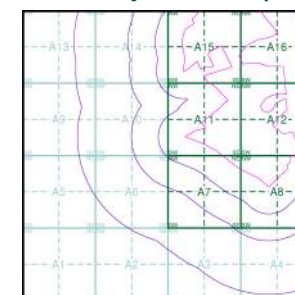
Superficial Aquifers

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

■ Unproductive Aquifer

⋯ Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

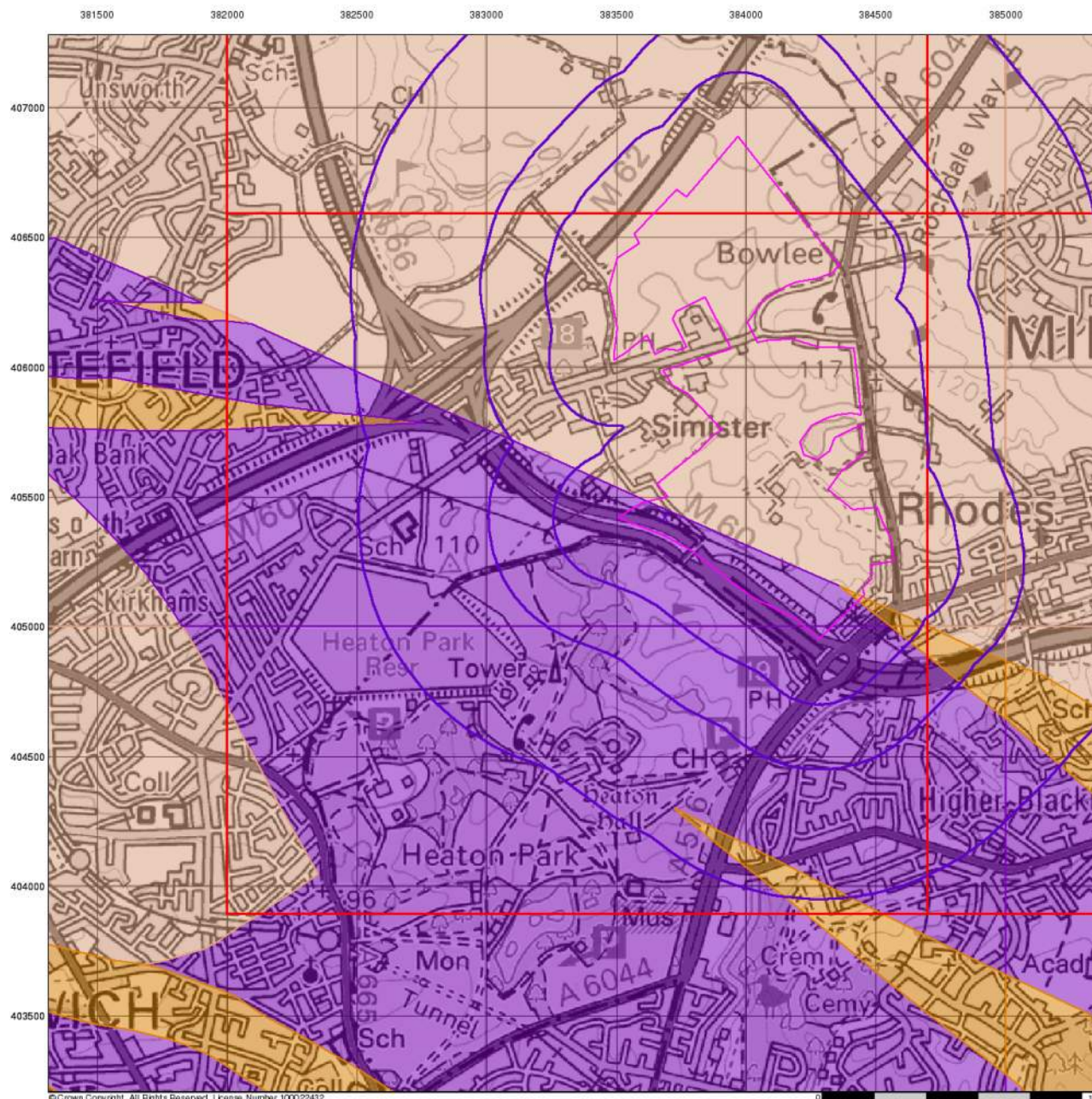
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 Customer Ref: A104444-1
 National Grid Reference: 383690, 405420
 Slice: A
 Site Area (Ha): 105.63
 Search Buffer (m): 1000

Site Details

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0 1 km



Bedrock Aquifer Designation

General

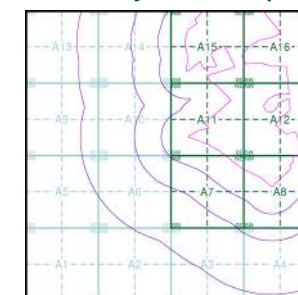
- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- 8 Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

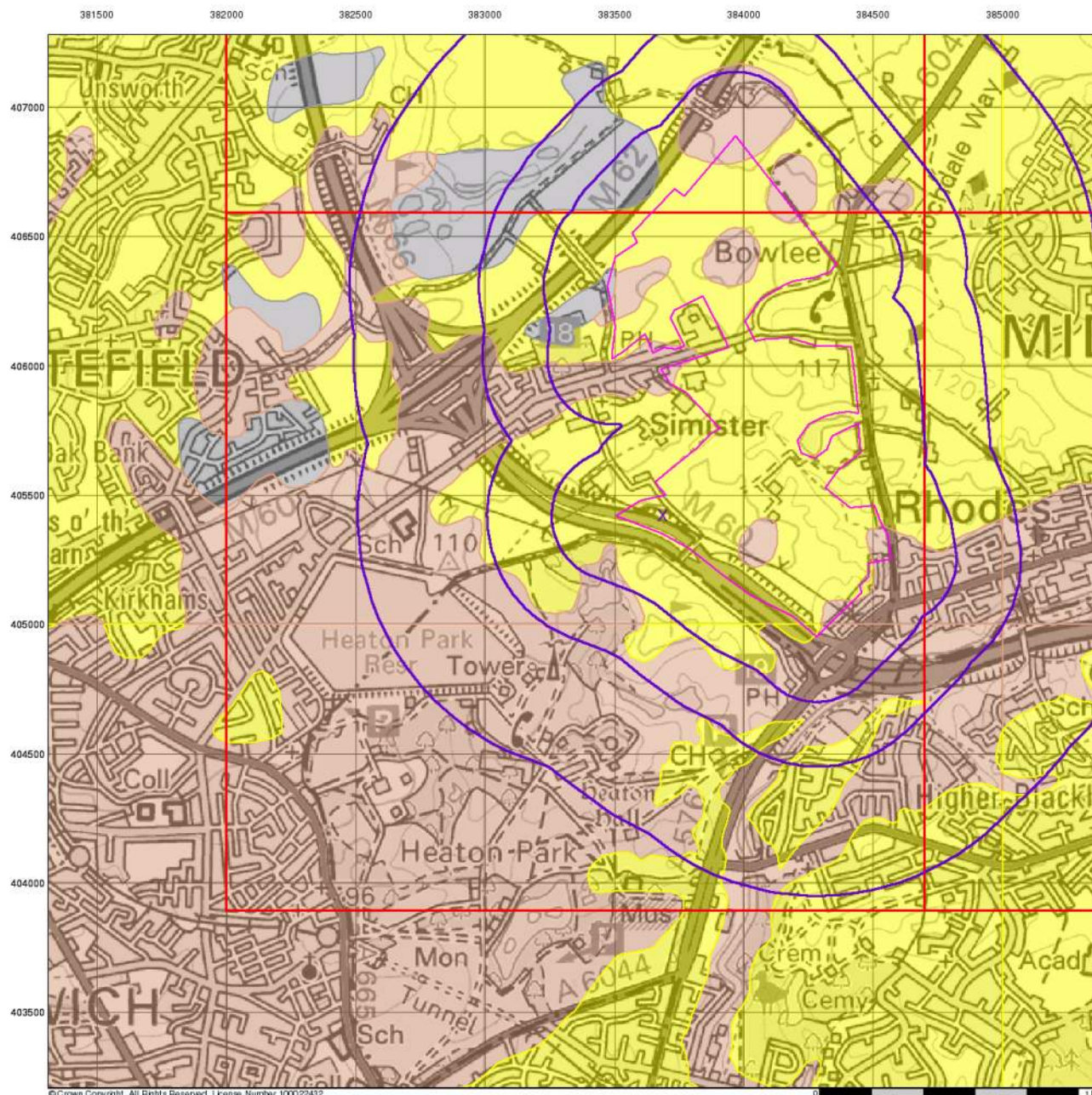
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Superficial Aquifer Designation

General

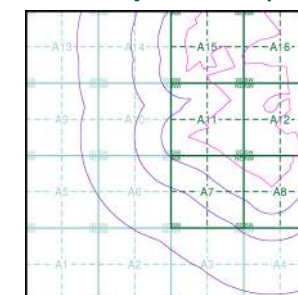
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- Slice
- 8 Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

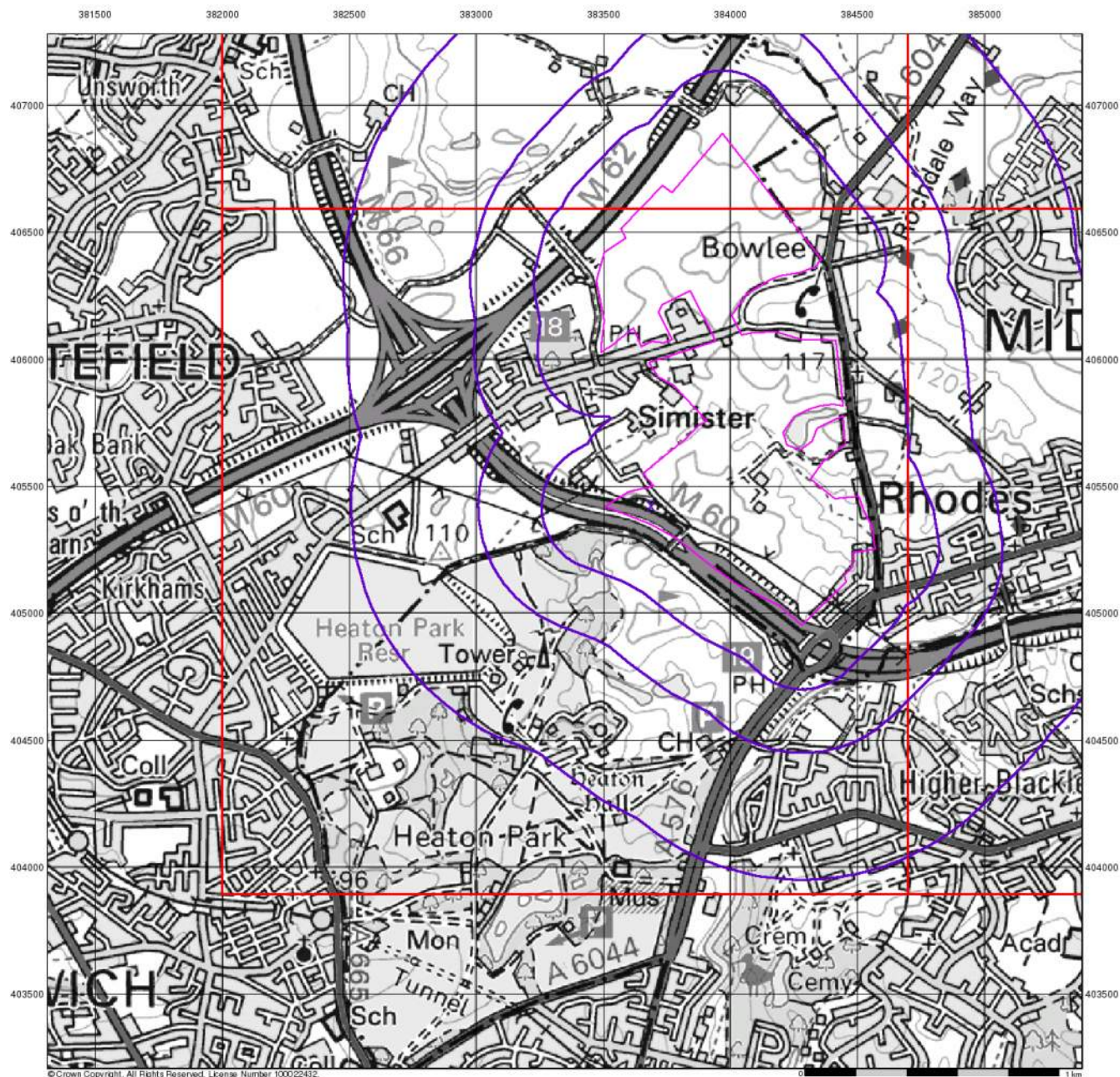
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Source Protection Zones

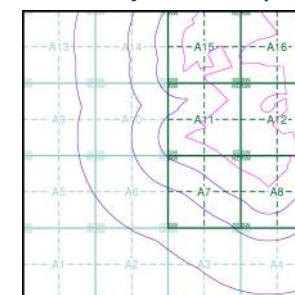
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

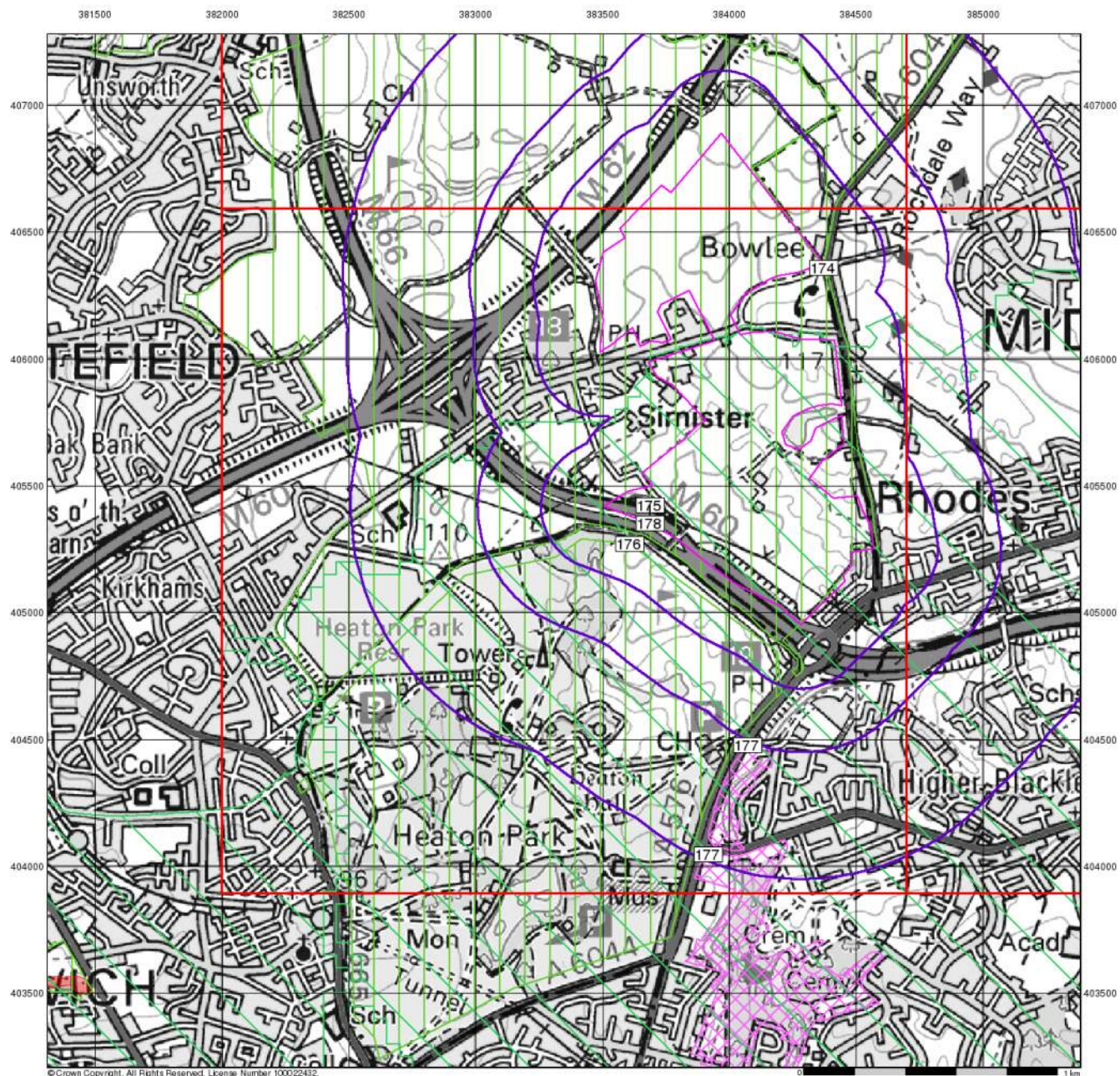
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Sensitive Land Uses

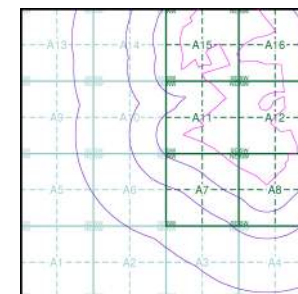
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 202263147_1_1
 Customer Ref: A104444-1
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