Appendix 9.18

Hydrock Consultants Limited, Dantzic Street – Phase 2, Manchester: Ground Conditions Desk Study Report, reference R/151819/G001, dated 7 December 2015.

Dantzic Street – Phase 2, Manchester

Ground Conditions Desk Study

Final Report for

December 2015

Hydrock Ref: R/151819/G001

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Executive Summary and Conceptual Site Model

SITE INFORMATION AND SETTING	
Report Purpose	Phase 1 desk study and preliminary risk assessment.
Client	Land Property Investment Consultancy Ltd.
Site Name and Location	The site is known as Dantzic Street – Phase 2, Manchester.
Proposed Development	The proposed development is to comprise a multi-storey residential development with under croft car parking on the ground floor.
PHASE 1 (DESK STUDY + WALK-OVER)	
Current Land Use and Description	The site covers approximately 0.77 ha and is split into three main sections: 1) The eastern and south eastern parts of the site were formerly occupied by Farlam Waste Management Limited, a skip hire and waste handling company. 2) The main part of the site is occupied by Astra Signs Limited, a sign-making company which is still active and was fully operational at the time of the site walkover visit. 3) The north west corner of the site was occupied by an active construction site, with PHD1 Construction using the area for their site compound for working on Dantzic Street Phase 1 and was therefore inaccessible.
Site History	The site has been subject to several phases of development over the past century, originally with residential development, making way for various industrial uses including a bolt works, rubber works, an asphalt works and most recently as a waste transfer station. Areas surrounding the site are associated with potentially contaminative former and current industries, such as a former gas works to the south, gasometers to the north, a dye/chemical works to the west, railway sidings to the south and more recently a waste transfer station to the north east.
Unexploded Ordnance	A non-specialist UXO assessment indicates moderate bomb risk. Consideration should be given to the process set out in CIRIA Report C681, Chapter 4, starting with a preliminary risk assessment in accordance with CIRIA Report C681, Chapter 5.
Geology	Made Ground is anticipated locally at least due to the current and former development of the site, overlying natural Glacial Till deposits. The underlying bedrock is indicated to be the Chester Pebble Beds Formation comprising sandstone.
Mining and Mineral Extraction	Mining and mineral extraction is not considered to pose a risk to the proposed development.
Ground Stability	No significant ground stability issues are indicated to be present at the site. The Glacial Till is likely to have low to medium volume change potential.
Hydrogeology	The Glacial Till is classified by the Environment Agency as an Unproductive Stratum. The underlying bedrock of the Chester Pebble Beds is classified as a Principle Aquifer. The site does not lie within a groundwater Source Protection Zone (SPZ).
Hydrology	The River Irk is located 40m to the northwest of the site and flows to the south east.
Flood Risk	The majority of the site lies in Flood Zone 1. However Flood Zone 2 (with medium probability of flooding) encroaches on to the northern site boundary. No further consideration to flood risk is given in this report.

<table>
<tr><td>Radon</td><td colspan="2">No radon protective measures are necessary according to current guidance.</td></tr>
<tr><td>Geotechnical Hazards from Desk Study</td><td colspan="2">Potential geotechnical hazards based on the expected ground conditions are listed below.
Uncontrolled Made Ground – excessive settlement.
Attack of buried concrete by aggressive ground conditions.
Shrink / swell of clay – settlement / heave of foundations when located within the influence of trees and vegetation.
Potential for relict structures such as old floor slabs, foundations and obstructions within the Made Ground beneath the site.
Stability and condition of existing retaining walls.</td></tr>
<tr><td rowspan="3">Possible Contaminant Linkages of Moderate or Greater Risk Level - From Desk Study</td><td colspan="2">The possible pollutant linkages on an un-remediated site determined by desk study and walk-over are summarised below for risk levels of moderate or greater.</td></tr>
<tr><td>Source(s)</td><td>◄ potential Impact on ► Receptor(s)</td></tr>
<tr><td>Metals, metalloids, PAH, petroleum hydrocarbons, VOCs, SVOCs and asbestos within Made Ground on site</td><td>Future occupiers
Groundwater
Surface water
Plant life</td></tr>
<tr><td></td><td>Ground Gases from putrescible materials within the Made Ground.</td><td>Future occupiers
Neighbours</td></tr>
<tr><td colspan="3">ASSESSMENT AND CONCLUSIONS</td></tr>
<tr><td>Conclusions</td><td colspan="2">Based on historic land uses and its current operational use, the overall risk from land contamination at the site is considered to be low for the sites current use, and low to moderate for a re-developed site, but would need to be confirmed by appropriate intrusive investigation, testing and assessment of the results of the investigation.
It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990.
Based on the available desk study and walk-over information, the following geotechnical issues need to be addressed in exploratory investigation:
determine the depth and extent of Made Ground across the site;
determine the strata and soil strength profile beneath the site; and
assess the sulfate concentration with depth.</td></tr>
<tr><td colspan="3">FUTURE CONSIDERATIONS</td></tr>
<tr><td>Uncertainties and Limitations</td><td colspan="2">During the site walkover survey, certain areas of the site were inaccessible.</td></tr>
<tr><td>Further Work</td><td colspan="2">In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. Based on the current data, this site investigation is proposed to comprise:
the excavation of trial pits to allow collection of samples for geotechnical and chemical analysis;
the excavation of trial pits to allow collection of samples for geotechnical and chemical analysis, to assess trench stability, over break potential and “diggability”;
cable percussive boreholes to allow collection of samples for geotechnical and chemical analysis of deeper soils and allow in-situ testing (SPTs) to be undertaken to assess soil strengths/densities to facilitate foundation design, and allow the installation of gas and groundwater monitoring wells;</td></tr>
</table>

	• Dependant on the depth of unweathered bedrock of the Chester Pebble Beds, rotary coring may be required to obtain intact rock cores to assess rock strength which will assist foundation design; • gas and groundwater monitoring installations to allow gas concentrations and groundwater levels to be monitored; • gas concentration and groundwater level monitoring; • geotechnical testing of soils and rock; and • contamination analyses of soil and groundwater.

This Executive Summary forms part of Hydrock Consultants Limited report number R/151819/001 (Issue 1) and should not be used as a separate document.

1.0 INTRODUCTION

1.1 Terms of Reference

In November 2015, Hydrock Consultants Limited (Hydrock) was commissioned by Land Property Investment Consultancy Ltd (LPIC) (email to Sam Denby dated 19 November 2015) to undertake a Desk Study at Dantzic Street – Phase 2, Manchester.

The site covers approximately 0.77 ha. A site walkover was undertaken on Friday 4th December and the details are reported in Section 2.2.

The proposed development is to comprise a multi-storey residential development with under croft car parking on the ground floor.

A site location plan (Drawing 151819/D001), a proposed development layout and a site features plan (Drawing 151819/D002) are presented in Appendix A.

1.2 Objectives

The objectives of this investigation are to assess the readily available information on the likely ground conditions at the site.

1.3 Scope

The scope of work for this commission comprises:

- a desk study and site walk-over reconnaissance to determine the nature of the site and its surroundings including current and former land uses, geology, hydrogeology, hydrology and geo-environmental data; and
- reporting on findings.

See Appendix E for detailed reporting methodology.

1.4 Provided Information

The following has been provided to Hydrock by LPIC for use in the preparation of this report:

- Survey Systems Limited. November 2014 “Topographical Survey Dantzic Street, Manchester”, reference SSL:13305C:200:1:1.
- Simpson Haugh and Partners, Dantzic Street – Phase 2, Manchester, Existing Site Plan, dated 16.10.15.
- Simpson Haugh and Partners, Dantzic Street – Phase 2 Manchester Level 00, dated 16.10.15.
- Simpson Haugh and Partners, Dantzic Street – Phase 2 Manchester Level 01, dated 16.10.15.
- Simpson Haugh and Partners, Dantzic Street – Phase 2 Manchester Level 03, dated 16.10.15.

- Simpson Haugh and Partners, Dantzic Street – Phase 2 Manchester Level 06, dated 16.10.15.
- Simpson Haugh and Partners, Dantzic Street – Phase 2 Manchester Level 09, dated 16.10.15.
- Simpson Haugh and Partners, Dantzic Street – Phase 2 Manchester Roof Level, dated 16.10.15.

1.5 Approach

The work has been carried out in general accordance with recognised best practice as detailed in guidance documents such as the CLR 11 M*odel Procedures* (Environment Agency 2004). The technical details of the approach and the methodologies adopted are given in Appendix E.

A recognised phased approach has been followed and this Phase 1 desk study and walk-over provides a preliminary assessment of the site conditions and the important factors that may require further investigation to reduce uncertainty. Recommendations for further work are listed at the end.

2.0 PRELIMINARY INVESTIGATION (PHASE 1 STUDY)

A number of desk study sources have been used to assemble the following information, including a proprietary environmental data report which has been obtained for the site (dated 24 November 2015) and is presented in Appendix D.

2.1 Site Referencing

The site is referenced in Table 2.1.

Table 2.1: Site Referencing Information

Item	Brief Description
Site name	Dantzic Street – Phase 2, Manchester
Site location and grid reference	Located off Dantzic Street, Manchester, nearest postcode is M4 4DN. The approximate National Grid Reference is 384630E, 399431N.

A site location plan is provided in Appendix A (Drawing 151819/D001).

2.2 Site Description and Walk-Over Survey

A site walkover survey was undertaken on Friday 4th December 2015 to assist in the assessment of potential hazards and receptors. A basic site description is presented in Table 2.2.

Table 2.2: Site Description

Item	Brief Description
Site access	The site is split into three main sections with vehicular access being gained via three different access points from Dantzic Street to the North of the site. The different site areas are shown on the Site Features Plan (Drawing 151819/D002) included in Appendix A.
Site area	Approximately 0.77 ha.
Elevation, topography and any geomorphic features	The site is bounded to the south by railway lines that are elevated above the site by about 10m. The rest of the site falls moderately from south to north by around 2-3m, with an elevation of 31.4m recorded on OS maps at Dantzic Street to the north of the site. The site is predominantly covered by hardstanding as either concrete or tarmac.

Item	Brief Description
Present land use	The site is split into three main sections: 1) The eastern and south eastern parts of the site were formerly occupied by Farlam Waste Management Limited, a skip hire and waste handling company. The site has closed and has been largely cleared except for the open warehouse, kitchen and office buildings. The site is bounded to the south by railway lines at a level around 10m above the site to the east by Ryan Waste Management Limited, to the west by Astra Signs Limited and by Dantzic Street to the north. It was noted that an above ground fuel storage tank (said to be diesel by the site operative present) was formerly present in the south west corner of the site on a raised platform. The tank has been removed from site, no visible fuel staining was noted in the area. The site surface was predominantly covered in concrete with a sump in the west of the site where vehicles/skips were washed down. Although utilities plans have not been provided it was noted that a medium pressure gas main runs roughly north-south down the access road to the south. It is understood that this gas main is to be relocated. 2) The main part of the site is occupied by Astra Signs Limited, a sign-making company which is still active and was fully operational at the time of the visit meaning that some areas of the site were inaccessible, in particular, the most southern part of the factory building. The building and yard area were in good repair, with the yard area used for storage of materials and staff car parking. The main building is a large warehouse structure with high ceilings, with site offices in the centre/south of the building. The site manager stated that some chemicals are used for the processes on site such as solvents and paints but that the majority of paints were now water based. 3) The north west corner of the site was occupied by an active construction site, with PHD1 Construction using the area for their site compound for working on Dantzic Street Phase 1 and was therefore inaccessible. The site is largely screened off by site hoardings, so visibility into the site was limited but appeared to have been cleared of above ground structures which are shown on Google aerial photography but concrete site surfacing retained.
Vegetation	There is no significant vegetation on site, other than low shrubs and trees around some of the site boundaries.
General site sensitivity	The site is within an urban/industrial setting.
Site boundaries and surrounding land	The surrounding area is predominantly occupied by industrial/commercial premises. Dantzic Street is present to the immediate north of the site, whilst a railway line is present to the immediate south. The land to the west is an active construction site for the development of medium/high rise apartments, whilst the land to the east is being utilised as a waste management facility, with large mounds of soils and aggregates present.

2.3 Site History

A study of historical Ordnance Survey maps (Appendix C) has been undertaken to identify any former land uses at the site and surrounding areas which may have geotechnical or geo-environmental implications for the proposed development and is summarised in Table 2.3.

Table 2.3: Key Features from Historical Mapping

Map Edition and Scale	Key Features on Site	Key Features off Site
1848 1:10,560 1850 1:1,056	The northeastern boundary is marked by Water Street with Flag Street running northeast to southwest approximately centrally through the site. There are a number of residential properties present along Flag Row. Further residential properties are present in the northwest of the site. A watercourse appears to run centrally through the site trending north to south. A "Pump" is also annotated centrally.	The surrounding land use is a mix of residential properties and industrial units. Railway lines are present 10m to the south and the River Irk is present 40m to the north. The industrial units in close proximity of the site include Print and Dye works (50m W & 65m NW), Starch Works (50m W), Irk Town Mill (silk) (75m SW), Dye Works (250m & 450m NE) and Gas Works (No.2) (100m S). St George's Colliery, a Sandstone Quarry and Brick Fields are 500 – 750m to the northeast of the site.
1890-1894 1:10,560 1892-1893 1:2,500	The northern half the site is now occupied by residential properties. Industrial units occupy the southern part the site.	There has been much residential development of the land immediately surrounding the site and a railway sidings is present to the southeast. There has also been significant industrial development around the site. Two Gasometers are present immediately to the north of the site. Rochdale Road Gas Works is present beyond the railway lines 50m to the south. A chemical works is now shown 100m to the west and a school is now present 100m to the northeast, whilst a dye works with a reservoir adjacent is now annotated 120m to the northwest. A second set of railway lines have now been constructed 200m to the north of the site, with a brewery beyond, approximately 250m to the north. The colliery, brick field and quarry are no longer marked 500 to 750m northeast, however, an old quarry and excavations are still marked, along with a chemical works and Moss Brook Works. There has been much residential and industrial development in this area. Brick works are now marked 500m to the north of the site and 750m to the northwest. Strangeways Prison has been developed 750m to the west.
1905-1906 1:10,560 1908 1:2,500	The industrial units in the south of the site have been redeveloped into a single building which is annotated as a Bolt Works with a chimney also noted.	The Print and Dye works and Starch Works to the west are now marked as a Rubber Works, whilst the Dye works to the northeast are annotated as disused. The gas works to the south of the site has undergone some redevelopment with one of the gasometers no longer present. The industrial units to the west are now annotated as an Iron Works.

Map Edition and Scale	Key Features on Site	Key Features off Site
		The old quarry to the northeast is now marked as a brick works.
1921 1:10,560 (part map) 1922 1:2,500 1923 1:10,560 1933 1:2,500 1934 1:10,560 1938 1:10,560	No significant changes.	There has been extension to the rubber works to the west and significant extension to the railway lines and sidings to the north of the site. Dalton Printing Works lies 120m to the east. A reservoir 120m to the northwest is no longer present and an oil works is shown to lie approximately 150m to the west. The brewery to the north is now occupied by a larger building which is unannotated. A clay pit is marked adjacent to the building.
1949 1:2,500	Several houses are no longer present in the north western corner of the site and have been replaced with several tanks. The Bolt Works is now annotated as Collyhurst Foundry and a Tripe Works is present on the southern boundary.	The gasometers to the immediate north are now annotated as part of the Rochdale Road Gas Works, with two wells also annotated. Timber Yards are present approximately 90m and 150m to the west, with several smaller works such as a metal foundry and glue works in between.
1952 1:2,500 1956 1:10,560 1958 1:2,500	By 1952, the houses present centrally have been demolished, with a small area annotated as ruins. Collyhurst Foundry is noted to be disused. By 1958 the foundry has been demolished and replaced by a rectangular structure on the western half of the site. The remaining houses on the central part of the site have been demolished and small rectangular structure has been built on the north western corner of the site. The chimney renain sin place.	A large garage is annotated approximately 20m to the north east of the site. The timber yards to the east are now annotated as works.
1964 1:1,250 1968 1:10,560 1970 1:1,250 1975 1:10,000	By 1970, the existing buildings on site have been demolished and replaced by a larger building covering the majority of the western part of the site which is part of a wider rubber works. The Tripe Works is now annotated as an Asphalt Works.	The gasometers to the north have been demolished by 1970 and the rubber works to the immediate west has expanded. Several structures that were present at the gas works to the south are also no longer displayed.
1980 1:10,000 1984 1:1,250 1988 1:10,000 1989 1:1,250	The asphalt works is no longer present, with the area now labelled as a Depot with a small rectangular structure next to the southern boundary. The chimney is no longer annotated.	By the map of 1984, the gas works to the south is now labelled as a depot and the majority of the area has been redeveloped. Many of the works to the east have also been redeveloped. The garage to the north east is now labelled as a depot and the Dalton Printing Works are now simply labelled as a works.
1991 1:10,000 1992 1:1,250 1993 1:1,250 1994 1:10,000 1995 1:1,250	Several small structures on the eastern part of the site are no longer shown.	By 1991 the iron works to the south west is no longer present and by 1994, the works to the west have also been demolished.

Map Edition and Scale	Key Features on Site	Key Features off Site
2002 1:10,000 2010 1:10,000 2014 1:10,000	By 2002, the structure present on the western half of the site has been demolished and replaced, remaining a part of a wider Works off site to the west. Smaller rectangular structures have been built on the north western part of the site and along the south eastern corner.	The former works to the west is now annotated as a car park and the map of 2010 indicates the building associated with the rubber works to the immediate west have been demolished and by 2014 the works to the east are also no longer displayed.

The site has been subject to several phases of development over the past century, originally with residential development, making way for various industrial uses including a bolt works, a foundry with a chimney, rubber works, an asphalt works and most recently as a waste transfer station.

Areas surrounding the site are associated with potentially contaminative former and current industries, such as a former gas works to the south, gasometers to the north and dye/chemical works to the west.

2.4 Unexploded Ordnance/Bombs

In general accordance with CIRIA Report C681 (Stone *et al* 2009) non-specialist UXO screening exercise has been carried out for the site. There is no indication of former military use from the historical mapping. Screening against the Zetica regional bomb risk map (Manchester) indicates the site to be in an area where the bomb risk is moderate. A copy of the map is presented in Appendix D.

Since the available records of aerial bombing are interpreted by Zetica as moderate bomb risk, in order to determine if and what further action may be required to mitigate the risk, the next stage would be to follow the recommended process set out in CIRIA Report C681, Chapter 4 and carry out a preliminary risk assessment in accordance with CIRIA Report C681, Chapter 5.

At this stage, Hydrock also consider that specialist UXO supervision is likely to be required on site during any intrusive works.

2.5 Geology

The general geology of the site area is shown on the 1:50,000 geological map of Manchester (Sheet 85) and is summarised in Table 2.4.

Table 2.4: Geology

Location	Age	Stratigraphic Name	Description
On Site	Modern	Made Ground (Undivided)	Artificial deposit of unknown composition.
On Site (except northwestern corner)	Devensian	Glacial Till	Typically comprising firm to stiff silty clays and clayey silts with varying amounts of sand, gravel, cobbles and

Location	Age	Stratigraphic Name	Description
			occasional boulders with common discontinuous lenses of usually clayey sands and / or gravel.
Onsite	Early Triassic	Chester Pebble Beds	Sandstone, fine to coarse grained, commonly pebbly, with conglomerates, sporadic siltstones and cross-stratified.
Offsite 40m to the northeast	Late Permian	Manchester Marls Formation	Red marl (calcareous mudstone and siltstone) with thin beds of fossiliferous marine limestone and dolomite. Locally green and sandy in places.

Made Ground is mapped as being present across the site, this is likely to be from historical development of the site and the surrounding area. The nature and provenance of the Made Ground is unknown.

There are 3 faults within close proximity of the site. A fault is located 135m to the northeast with an additional fault located 225m to the southwest, both northwest to southeast trending faults which are downthrown to the southwest. The third fault is located 205m to the north and is a north to south trending fault which downthrows to the west. These faults are not considered to pose a risk to the subject site.

2.6 Mining or Mineral Extraction

The site is located within 1km of an area of a known coal mining area and there is a potential for coal seams to be present at depth beneath the site which may have been historically worked. However, the anticipated presence of such coal seams is of sufficient depth that the risk to the proposed development from future ground movements related to mining subsidence is considered to be negligible.

A brick field and sandstone quarry are displayed on historical mapping (C.1850) located approximately 500m to 750m northeast of the site, although all surface mining is recorded as ceased at this locations.

2.7 Ground Stability

The Groundsure report indicates that the maximum hazard rating for running sands, landslides, ground dissolution of soluble rocks, collapsible deposits, compressible deposits and shrink-swell of clays varies between low and negligible. Hydrock considers that the clays of the Glacial Till are likely to have low to medium volume change potential.

2.8 Hydrogeology

The aquifer designations given in Table 2.5 are based on the Environment Agency interactive aquifer designation map. Additional information on the hydraulic characteristics of the geological units has been abstracted from Allen *et al* (1997) and Jones *et al* (2000).

Table 2.5: Hydraulic Characteristics of Strata

Stratum	Aquifer Designation	Hydraulic Characteristics
Glacial Till	Secondary (Undifferentiated)	Dominated by low permeability clay which is interbedded with moderate to high permeability layers

Stratum	Aquifer Designation	Hydraulic Characteristics
		of sand with occasional gravel; overall, this unit is likely to be anisotropic in nature with horizontal permeability greater than vertical permeability (i.e. kh>kv).
Chester Pebble Beds	Principal	This strata is dominated by sandstone and conglomerates which have a high intergranular permeability. This strata usually provides a high level of water storage and may support water supply/river base flow on a strategic scale.

Reference to the Environment Agency web site shows the following groundwater body beneath the site and the current chemical status (Table 2.6).

Table 2.6: Groundwater Body

Category	Label / Status
Waterbody ID	GB41201G101100
Waterbody name	Manchester and East Cheshire Permo-Triassic Sandstone Aquifers
River basin district	North West
Current quantitative quality	Poor
Current chemical quality	Poor
Upward chemical trend	Yes
2015 predicted quantitative quality	Poor
2015 predicted chemical quality	Poor
Overall risk	At risk
Protected area	Yes.

The site is not situated within a groundwater Source Protection Zone (SPZ). There are 4 licensed groundwater abstractions within 1000m of the site which are listed in Table 2.7

Table 2.7: Groundwater Abstractions

Location Relative to Site	Purpose of Abstraction
533m to the northwest	Historical abstraction for general cooling (low loss) at Derby Brewery, Cheetham. The license number is recorded as 2569004011. The original application number is given as 423 and the original start date is recorded as 17/2/1966. The licence is for water abstracted from a borehole known as Manchester 3. Water can be abstracted at an annual volume of 45,460m^3 with a maximum daily volume of 181.84m^3.
711m to the northeast	An abstraction for general cooling (low loss) at Little Green Works, Collyhurst Road. The license number is recorded as 2569004011.

Location Relative to Site	Purpose of Abstraction
	The original application number is recorded as 689 and NPS/WR/006003 and the original start date is recorded as 17/2/1966. The latest issue number recorded is 102, which has a start date of 9/2/2011 and is active and far as is known. The licence is for water abstracted from a borehole known as Manchester 10. Water could be abstracted at an annual volume of 438,689m^3 with a maximum daily volume of 1,636.56m^3.
744m, 771m and 790m to the west	Historical abstraction for drinking, cooking, sanitary, washing, (small garden) - commercial/industrial/public Services and process water at a premises in Strangeways, Manchester. The abstraction license number is 2569004023. The original application number is CW0023R and the original start date is recorded as 18/2/1966. The licence is for boreholes designated Borehole 3 and Borehole 2. Water can be abstracted at an annual volume of 500,000m^3 with a maximum daily volume of 2,500m^3.
757m to the northwest	Historical abstraction for general cooling (low loss) and drinking, cooking, sanitary, washing, (small garden) - commercial/industrial/public services at a premises on Derby Street, Cheetham. The abstraction license number is 2569004021. The original application number is 1749 and the original start date is recorded as 17/2/1966. The license is for a single borehole known as Borehole 3 and no further details are provided.

The majority of the site is covered by soils of high leaching potential.

2.9 Hydrology and Flooding

The surface water features in the vicinity of the site are listed in Table 2.8.

Table 2.8: Surface Water Features

Feature	Location Relative to Site
River Irk	Located 40m to the northwest of the site. This is a primary river and flows to the south east.

There are 5 active licensed discharge consents within 250m of the site. The details of which are as follows:

- 68m northwest of the site at Dantzic Street/Warford Street, Great Manchester (NGR 384600E, 399540N). The permit (no 01MAN0039, version 2) was issued/effective on 3rd September 2010. It allows discharge from sewer storm overflow into an unrecorded watercourse.
- 74m north of the site at Dantzic Street CSO, Greater Manchester (NGR 384650E, 399560N). The permit (no 016982951, version 2) was issued/effective on 7th December 2004. It allows sewer storm overflow into an unrecorded watercourse.

- 90m southwest of the site at Bromley Street SSO, Greater Manchester (NGR 384490E, 399400N). The permit (no 016982627, version 1) was issued/effective on 30th September 1994. It allows sewer storm overflow into an unrecorded watercourse.
- 127m southwest of the site at Bromley Street/Dantzic Street, Greater Manchester (NGR 384470E, 399360N). The permit (no 01MAN0046, version 2) was issued/effective on 14th April 2009. It allows sewer storm overflow into an unrecorded watercourse.
- 168m southwest of the site at Roger Street / Hargreaves Street, Greater Manchester (NGR 384440E, 399630N). The permint (no 01MAN059, version 3) was issued / effective on 3ed September 2010. It allows sewer storm overflow into an unrecorded watercourse.

There are no surface water abstractions within 1km of the site.

The desk study information indicates the proposed development is in Flood Zone 1 (with low probability of flooding). The extent of the Flood Zone 2 (with medium/moderate probability of flooding) from the River Irk to the north of the site encroaches on to the northern site boundary.

The study site is less than 1 ha so no consultation with the Environment Agency is required. However, due to the close proximity of the Flood Zone 2 in the north of the site, consideration should be given to carrying out a Flood Risk Assessment (FRA).

The environmental data report indicates a moderate risk of groundwater flooding.

No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regards to drainage and flooding.

2.10 Waste Management and Hazardous Substances

There are 4 waste management sites recorded within 250m of the site, as listed in Table 2.9.

Table 2.9: Waste Management Sites

Site Name and Location	Details
Farlam Waste Management Ltd Onsite Warford Street, Collyhurst, Manchester, M4 4DD. (NGR 384650E, 399400N)	Site Reference: FAR008, 50461, AP/EPR/YP3594CH. License was issued on 20th February 2007 and modified on the 12th November 2010. The site is a household, commercial and industrial waste transfer station and is permitted to received greater than or equal to 25,000 tonnes and less than 75,000tonnes. No further information is provided.
	Site reference: FPL001, EA/APR/DP3098CF/A001, 50118. License was issued on 27th August 2002. The site is a household, commercial and industrial waste transfer station and is permitted to received <25,000 tonnes. It is considered likely that the license above supersedes this license.
Land/premises at Dulwich Street, Collyhurst, Manchester, M4 4JJ 24 to 43m northeast of the site	Site Reference: JRC001, EA/EPR/WP3898CJ/T003, 50084. License was issued on 15th March 2002 and modified on 26th July 2004.

Site Name and Location	Details
(NGR 384690E, 399449N)	The site is a household, commercial and industrial waste transfer station and is permitted to received greater than or equal to 25,000 tonnes and less than 75,000tonnes. No further information is provided.
Placemix Ltd Transfer Station 174m west of the site (NGR 384400E, 399400N)	Site Reference PLT001, EA/EPR/CP3998CM/A001 & 50017 License was issued on 31st March 2000. The site is a household, commercial and industrial waste transfer station and is permitted to received <25,000 tonnes. No further information is provided.
Queens Road Tip 220m north of the site at Land to south Queens Road and North Collingham Road, Manchester. (NGR 384700E, 400100N)	Site Reference: F005,RD/LIC/241/82 Licence was issued on the 1st January 1974. Wastes were received from 31 December 1955 with the last date recorded as 31 December 1970. Wastes Accepted: Inert, Industrial, Commercial, Household, Special, Liquid sludge. Waste received from 31 December 1955

In addition to those recorded in the table above, several historical mapping records of scrap yards within close proximity of the site are recorded in the Groundsure report, these are located 3m northeast (1969), 12m southwest (1969), 52m northwest (1993 & 1994), 70m west (1995), 154 - 159m southwest (1984 & 1990) and 156 west (1989 & 1995).

There is a single record relating to the storage of radioactive materials within 1km of the site. However, as long as these have been stored and operated in accordance with any applicable licence, no impact on the site is envisaged.

There is no Local Authority Pollution Prevention and Controls, COMAH sites, NIHHS sites, or Planning Hazardous Substance consents or enforcements within 500m of the site.

2.11 Natural Soil Chemistry

Information contained within the environmental data report (Appendix D) gives indicative natural concentration values (estimated) for the natural soils at the site for a selection of Contaminants of Potential Concern (CoPC). These have been reproduced in Table 2.10 below.

Table 2.10: Natural Soil Chemistry

Element	Arsenic	Cadmium	Chromium	Lead	Nickel
Concentration (mg/kg)	15 - 25	<1.8	60 - 90	100-200	30-45

The values presented in Table 2.10 may act as guidance, indicating expected natural background concentration levels, and thereby provide a baseline estimate that can be used to assess the significance of the results of any chemical soil testing data acquired during future ground investigations at the site.

2.12 Radon

The radon risk has been assessed in the environmental data report.

This indicates that the site is not in a Radon Affected Area and no radon protection measures are required.

2.13 BGS Borehole Archive

A number of borehole logs from the BGS archive that are located within a relevant distance from the site have been reviewed and indicate the following:

- SJ89NW35, located 4m to the northwest (NGR 384566E,399447N), drilled to a depth of 6.1m, and recorded Made Ground to 1.52m bgl overlying sandstone.
- SJ89NW36, located 22m to the northeast (NGR 384661E,399498N), drilled to a depth of 6.1m, and recorded Made Ground to 1.07m bgl, overlying marls and sands. Sandstone was encountered at 6.10m bgl.
- SJ89NW34, located 76m to the southwest (NGR 38455E,399402N), drilled to a depth of 4.88m, and recorded Made Ground to 0.91m bgl overlying sandstone.
- SJ89NW32, located 106m to the southwest (NGR 384505E,399340N), drilled to a depth of 5m, and recorded Made Ground to 1.52m bgl overlying sandstone.

3.0 PRELIMINARY CONCEPTUAL SITE MODEL

3.1 Physical Setting

The preliminary ground model of the site is the basis of the understanding of the ground conditions that will inform the geo-environmental exposure model and the geotechnical hazard assessment.

Made Ground is anticipated due to the current and former development of the site, overlying natural Glacial Till deposits. The underlying bedrock is indicated to be the Chester Pebble Beds Formation comprising sandstone.

The Glacial Till is classified by the Environment Agency as an Unproductive Stratum. The underlying bedrock of the Chester Pebble Beds is classified as a Principle Aquifer. The site does not lie within a groundwater Source Protection Zone (SPZ).

The River Irk is located 40m to the northwest of the site and flows to the south east.

The site has been subject to several phases of development over the past century, originally with residential development, making way for various industrial uses including a bolt works, a foundry with a chimney, a rubber works, an asphalt works and most recently as a waste transfer station.

General Made Ground arising from the various phases of development of the site could include materials having elevated concentrations of contaminants, whilst such materials could also be a source of hazardous ground gas emissions. Dependant on the depth of Made Ground present, such materials are unlikely to provide a suitable formation level for foundations or floor slabs.

In particular, the former Asphalt Works could have resulted to loss of hydrocarbons to the ground and it is considered unlikely any remedial works to remove contaminants will have been undertaken, given that subsequent uses have including a waste transfer station which is likely to have introduced additional contaminants.

As a consequence of the various phases of development, previous construction may have included Asbestos Containing Materials (ACM) within the buildings. An asbestos survey will need to be carried out prior to any refurbishment or demolition to confirm whether or not asbestos containing materials are present. The Made Ground soils at the site could also contain such materials.

The surrounding area has also had various industrial uses during the past, such as a former gas works to the south beyond the railway, gasometers to the north beyond Dantzic Street and a dye/chemical works to the west.

Given the presence of relatively impermeable Glacial Till beneath the area, it is considered unlikely that ground gases would migrate onto the subject site from off site sources.

The main details of the site and potential hazards are summarised on a Site Features Plan (Drawing 151819/D002) to confirm potential contamination sources and sensitive receptors on site.

3.2 Geo-environmental Exposure Model

The preliminary exposure model is used for geo-environmental hazard identification and establishing potential contaminant linkages based on the contaminant-pathway-receptor approach.

3.2.1 Potential Contaminants

For the purpose of this assessment the potential contaminants have been separated according to whether they are likely to have originated from on-site or off-site sources.

The potential presence of asbestos containing materials (ACM) within any present building fabric is not considered below, as it is presumed any such materials will be dealt with by the contractor undertaking the demolition / building works.

Potential On-Site Sources of Contamination

- The site has held a waste transfer licence and soils may contain remnants of household, commercial and industrial wastes, which may include asbestos.
- The southern part of the site was formerly occupied by an Asphalt Work which is likely to be a source of Polyaromatic Hydrocarbons (PAH) and petroleum hydrocarbons.
- Made Ground from previous development possibly including metals, metalloids, asbestos, PAH and petroleum hydrocarbons.
- Ground gases (gases carbon dioxide and methane) from putrescible materials present in the Made Ground.

Potential Off-Site Sources of Contamination

- Off site sources of contamination include a waste transfer station approximately 24m to the northeast.
- Areas surrounding the site are associated with potentially contaminative former and current industries particular the former gas works to the south and gasometers to the north.
- A railway sidings has been present to the immediate south for a number of years and contaminates may include hydrocarbon fuels, lubricants and chlorinated solvents that may have impacted the southern part of the site.

3.2.2 Potential Receptors

- Humans (neighbours, site end users).
- Development end use (buildings, utilities and landscaping).
- Groundwater: Principle Aquifer status of the Chester Pebble Beds.

- Surface water: The River Irk situated 40m to the northwest.

It should be noted that health and safety risks to site contractors and maintenance workers have not been assessed during these works and will need to be considered separately.

3.2.3 Potential Pathways

- Humans: ingestion, skin contact, inhalation of dust and outdoor air.
- Buildings: methane and/or carbon dioxide ingress via permeable soils and/or construction gaps.
- Plant life: root uptake.
- Plant uptake: methane ingress to the root zone.
- Underlying groundwater: migration of contaminant via leachate dispersion through the unsaturated zone of Glacial Till
- Underlying groundwater: migration of contaminants into the Chester Pebble Beds Principle Aquifer
- Surface water: overland flow, drainage discharge and potential base flow from groundwater.

3.2.4 Summary of Potential Contaminant Linkages

Table 3.1 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in CLR 11 and additional risk assessment is required.

Linkages has been assessed in general accordance with guidance in CIRIA Report C552 (Rudland *et al* 2001) but with the addition of a 'no linkage' category. More details are given in Appendix E including descriptions of typical examples of probability and consequences.

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

		Consequence			
Probability	*product*	**Severe**	**Medium**	**Mild**	**Minor**
	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			

Table 3.1: Exposure Model – Preliminary Risk Assessment of Source-Pathway-Receptor Contaminant Linkages

Source(s)	Possible Pathway(s)	Receptor(s)	Probability	Consequence	Risk Level	Comments
Made Ground beneath the site, possibly including elevated concentrations of metals, metalloids, asbestos, PAH, SVOCs, VOCs, solvents and petroleum hydrocarbons	Ingestion or direct contact	End-users of the site	Likely	Medium	Moderate	Several phases of development have taken place on site, with the likelihood of potentially contaminated Made Ground being imported onto site during development and also potential contaminative past uses use as a rubber works and an asphalt works impacting on the shallow soils beneath the site. This will need to be confirmed as part of an intrusive ground investigation.
	Inhalation of fugitive dust	Neighbours	Low likelihood	Minor	Very low	The risk of dust generation is highest during site clearance and development works. However, the site is set within an urban/industrial setting, with various activities such as waste management processes taking place in the surrounding area. It is therefore not envisaged that the generation of dust will have a significant impact.
	Root uptake	New Planting	Low likelihood	Mild	Low	Risks to new planting will need to be quantified by laboratory testing as part of intrusive ground investigation.
	Leaching through unsaturated zone	Groundwater and possible abstractors	Likely	Medium	Moderate	There are several licenced groundwater abstractions within 1km of the site, which is underlain by the Principle Aquifer of the Chester Pebble Beds, although the presence of relatively impermeable Glacial Till overlying the aquifer is likely to inhibit downward migration of any contaminants present. The risk to the underling aquifer will need to be quantified as part of an intrusive ground investigation.
	Surface run-off, base flow from contaminated groundwater	Surface waters and possible abstractors				The shallow soils on-site may potentially be contaminated and the River Irk is situated approximately 40m to the north, there is therefore potential for the watercourse to be impacted by contaminants migrating off site. However, it is noted that the area has been predominantly used for heavy industry over the past century and it would be difficult to pinpoint the subject site as a distinct source of contamination.

Source(s)	Possible Pathway(s)	Receptor(s)	Probability	Consequence	Risk Level	Comments
Waste storage as part of recent waste management operations which may have introduced metals, metalloids, asbestos, PAH, SVOCs, VOCs, solvents and petroleum hydrocarbons to the soils	Ingestion, or direct contact	Site users	Likely	Medium	Moderate	There is a risk that contamination from waste materials that have been stored on site during the past will have entered/mixed with, the near surface soils, or been leached out of stockpiled materials into the underlying ground.
	Inhalation of fugitive dust	Neighbours	Low likelihood	Minor	Very low	The risk of dust generation is highest during site clearance and development works. This risk will be reduced following development, as materials will be removed.
	Root uptake	Future planting	Low likelihood	Mild	Low	There is a risk of contamination leached out of any stockpiled materials in the underlying ground, which could restrict plant growth.
	Migration through unsaturated zone	Groundwater	Likely	Medium	Moderate	There is a risk that contamination may have leached out of any stockpiled materials into the underlying ground and groundwater. This risk will be reduced following development and the permeable area will be decreased by the proposed development, leading to a smaller area for potential infiltration, thus decreasing the likelihood of contaminant migration.
	Surface run-off, base flow from contaminated groundwater	Surface waters	Likely	Medium	Moderate	
Elevated concentrations of ground gases (methane & carbon dioxide) from any biodegradable matter in any Made Ground on site.	Migration through soils or groundwater to indoor air	End-users of the site (asphyxiation or explosion).	Unlikely to likely	Severe	Low to Moderate	There is the potential for any gas generated by any putrescible materials in the underlying imported Made Ground. There is also a risk from Volatile Organic Compound (VOC) Vapours, particularly on the southern part of the site, given this was once occupied by an Asphalt Works. Monitoring works will need to be undertaken to confirm the prevailing gas regime and assess the gas risk to any future development.
		Neighbours (asphyxiation or explosion).	Unlikely	Severe	Low	It is unlikely any significant depths of Made Ground exist on site, which is indicated to be underlain by low permeability Glacial Till. The clays of the Till would serve to prevent the migration of ground gases off site, therefore the risk to neighbours is consider to be low, although this would need to be confirmed by ground gas monitoring.

Source(s)	Possible Pathway(s)	Receptor(s)	Probability	Consequence	Risk Level	Comments
The railways sidings to the immediate south including SVOCs, VOCs, solvents and petroleum hydrocarbons migrating onto the southern part of the site	Ingestion, or direct contact	Site users	Low likelihood	Medium	Low	Due to the proximity of the railway sidings located site it is possible that mobile contaminants, such as petroleum hydrocarbons, may have impacted on the soils along the southern part of the site.
	Via surface run-off, base flow from contaminated groundwater or migration through unsaturated zone	Groundwater	Low likelihood	Medium	Low	There is a risk that mobile hydrocarbon contamination may have impacted on the soils beneath the southern part of the site, however this the presence of relatively impermeable underlying Glacial Till may serve to retard contaminant migration.
The waste transfer station offsite 24m to the northeast which may have leached metals, metalloids, PAH, SVOCs, VOCs, solvents and petroleum hydrocarbons onto the subject site	Ingestion, or direct contact	Site users	Low likelihood	Medium	Low	Due to the proximity of the waste transfer station and dependant on the management of materials on the site, it is possible that mobile contaminants, such as petroleum hydrocarbons, and to a lesser extent PAH and metals, may have impacted on the soils of the site, although the presence of relatively impermeable Glacial Till may serve to mitigate against contaminant migration.
	Via surface run-off, base flow from contaminated groundwater or migration through unsaturated zone	Groundwater beneath the site	Low likelihood	Medium	Low	There is a risk that contamination may have leached out of stockpiled materials into the underlying ground and groundwater and migrated towards the subject site, although this will be inhibited to a degree by the relatively impermeable underlying Glacial Till.
The former Gas Works to the south and the Gasometers formerly present to the immediate	Ingestion, or direct contact	Site users	Low likelihood	Medium	Low	Due to the proximity of the waste the former gas works and particularly the gasometers to the north, it is possible that mobile contaminants, may have impacted on the soils of the site. Although considered to be of low likelihood, it is possible that materials have been imported onto site from this area during previous developments.

Source(s)	Possible Pathway(s)	Receptor(s)	Probability	Consequence	Risk Level	Comments
north of the site includes petroleum hydrocarbons, PAH, SVOCS, VOCs, oxides and cyanide compounds	Via surface run-off, base flow from contaminated groundwater or migration through unsaturated zone	Groundwater beneath the site	Low likelihood	Medium	Low	There is a risk that contamination may have migrated from the former gas works/gasometers into the underlying groundwater and migrated towards the subject site, although this will be inhibited to an extent by the relatively impermeable underlying Glacial Till.
Former rubber works to the immediate west includes potential solvents and petroleum hydrocarbons from former tanks present	Ingestion, or direct contact	Site users	Low likelihood	Medium	Low	The rubber works was partially present on site, although was largely present to the immediate west. Several tanks of unknown contents are were shown to be present from historical mapping and there is a risk that tanks may have leaked or spillages of petroleum hydrocarbons or solvents may have occurred. There is the potential for any contamination to have impacted the subject site, although as stated above, this will be inhibited by relatively impermeable Glacial Till.
	Via surface run-off, base flow from contaminated groundwater or migration through unsaturated zone	Groundwater beneath the site	Low likelihood	Medium	Low	There is a risk that mobile contamination may have migrated from the former rubber works into the underlying groundwater and migrated towards the subject site, impacting upon the groundwater beneath the site.

3.3 Geotechnical Hazard Identification

Potential geotechnical hazards based on the expected ground conditions are listed below.

- Uncontrolled Made Ground – excessive settlement (creep and inundation settlement or differential settlement of foundations, roads and infrastructure elements).
- Attack of buried concrete by aggressive ground conditions – the development site may contain unknown Made Ground and potentially sulfate bearing soils.
- Shrink / swell of clay – settlement / heave of foundations when located within the influence of trees and vegetation.
- Relict structures – it is likely that obstructions such as old floor slabs, foundations and the remnants of infrastructure are present within the Made Ground across the site.
- Stability and condition of existing retaining walls.

4.0 DESK STUDY CONCLUSIONS

Table 3.1 is a summary of the geo-environmental risks identified and the overall risk associated with the site has been designated using qualitative judgement according to the risk categories given in Table 4.1.

Based on historic land uses and its current operational use, the overall risk from land contamination at the site is considered to be **low** for the sites present use, and **low to moderate** for a re-developed site, but would need to be confirmed by appropriate intrusive investigation, testing and assessment of the results of the investigation.

It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990.

Table 4.1: Assessed Overall Risk Categories for the Site from Land Contamination

Risk Category	Definition
Very High Risk	A significant contaminant linkage, including actual evidence of significant harm or significant possibility and significant harm, is clearly identifiable at the site (e.g. from visual or documentary evidence) under current conditions, with potential for legal and/or financial consequences for the site owner or other Responsible Person. Remediation advisable based on acute impacts being likely. Immediate action should be considered.
High Risk	A contaminant linkage is identifiable at the site under current and future use conditions. Although likely, there is no obvious actual evidence of significant harm or significant possibility and significant harm under current conditions. Extent of risk is therefore subject to confirmation by investigation and risk assessment and most likely to be deemed significant. Realisation of the risk is likely to present a substantial liability to the site owner or other Responsible Person. Remediation required for redevelopment and may also be required under Part 2A for existing receptors.
Moderate Risk	A contaminant linkage is identifiable at the site under current and future use conditions. However, it is not likely to be a significant linkage under current conditions. It is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Actual extent of risk subject to confirmation by additional investigation and risk assessment and most likely to lie between no possibility of harm (under current conditions) and significant possibility of significant harm (under conditions created by new use). Remediation may be required for redevelopment.
Low Risk	Potential pathways and receptors exist, but history of contaminative use or site conditions indicates that contamination is likely to be of limited extent and below the level of possibility of harm. It is unlikely that the site owner or other Responsible Person would face substantial liabilities from such a risk. Precautionary investigations and risk assessment advisable on change of use. Any subsequent remedial works are likely to be relatively limited.
Very Low Risk	No contaminant linkage likely to exist under current or future conditions, but this cannot be completely discounted. If harm is realised, it is likely at worst to be mild or minor. Site not capable of being determined under Part 2A where the Local Authority inspects the site. Precautionary investigations and risk assessment advisable on change of use. Otherwise no further action recommended.
No Risk	No contaminant linkage exists.

5.0 UNRESOLVED ISSUES, UNCERTAINTIES AND LIMITATIONS

5.1 Site-Specific Comments

The Phase 1 investigation has highlighted a number of issues that require intrusive investigation and assessment to inform the design of the proposed development.

5.2 General Comments

This report details the findings of work carried out in December 2015. The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, all potential environmental constraints or liabilities associated with the site may not have been revealed.

The report has been prepared for the exclusive benefit of Land Property Investment Consultancy Ltd and those parties designated by them for the purpose of providing geotechnical and geo-environmental recommendations for the site. The report contents should only be used in that context. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

Information provided by third parties has been used in good faith and is taken at face value; however, Hydrock cannot guarantee its accuracy or completeness.

The work has been carried out in general accordance with recognised best practice. The various methodologies used are explained in Appendix E. Unless otherwise stated, no assessment has been made for the presence of radioactive substances or unexploded ordnance. Where the phrase 'suitable for use' is used in this report, it is in keeping with the terminology used in planning control and does not imply any specific warranty or guarantee offered by Hydrock.

The preliminary risk assessment process may identify potential risks to site demolition and redevelopment workers. However, consideration of occupational health and safety issues is beyond the scope of this report.

Please note that notwithstanding any site observations concerning the presence or otherwise of archaeological sites, asbestos-containing materials or invasive weeds such as Japanese knotweed, this report does not constitute a formal survey of these potential hazards.

Any site boundary line depicted on plans does not imply legal ownership of land.

6.0 RECOMMENDATIONS FOR FURTHER WORK

In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. Based on the current data, this site investigation is proposed to comprise:

- the excavation of trial pits to allow collection of samples for geotechnical and chemical analysis, to assess trench stability, over break potential and “diggability”;
- cable percussive boreholes to allow collection of samples for geotechnical and chemical analysis of deeper soils and allow in-situ testing (SPTs) to be undertaken to assess soil strengths/densities to facilitate foundation design, and allow the installation of gas and groundwater monitoring wells;
- Dependant on the depth of unweathered bedrock of the Chester Pebble Beds, rotary coring may be required to obtain intact rock cores to assess rock strength which will assist foundation design and allow the installation of ground gas and groundwater monitoring wells to assess the risk to the underlying Principle Aquifer;
- gas and groundwater monitoring installations to allow gas concentrations and groundwater levels to be monitored;
- gas concentration and groundwater level monitoring;
- geotechnical testing of soils and rock; and
- contamination analyses of soil and groundwater.

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Appendices

Appendix A **Drawings**

Appendix B **Site Walkover Photographs**

Appendix C **Historical Ordnance Survey Maps**

Appendix D **Desk Study Research Information**

Appendix E **Hydrock Methodology**

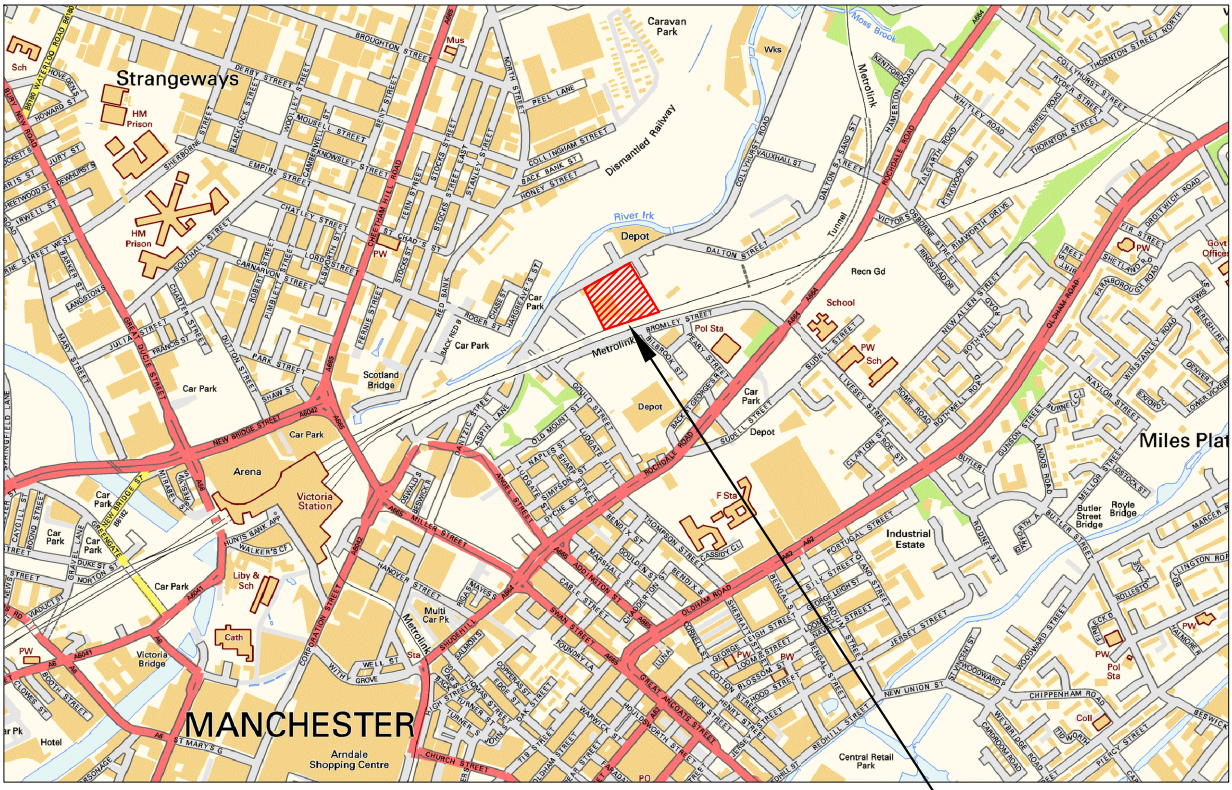
Appendix A

Drawings

Drawings included in this report:

151819-001 – Site Location Plan

151819-002 – Walkover Plan





SITE LOCATION



Rev	Date	Description	By	Ckd

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This drawing is the copyright of Hydrock Consultants Ltd

Drawing Status: FINAL

Client :
LAND PROPERTY INVESTMENT COMPANY LTD

Project Title:
DANTZIC STREET - PHASE 2, MANCHESTER

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Drawing Title:
Site Location Plan

Hydrock Job No: C/151654

Drawn	Checked	Scale @ A4	Date	Issue Date
AJS	SE	AS SHOWN	03/12/15	03/12/15

Drawing Number: 151819/D001

Revision: -

Notes: Site feature locations are approximate and not to scale.

Key:

- No access to this area at the time of the walkover
- Farlam Waste Management Limited (site closed)
- PHD1 Construction Limited (active construction site)
- Astra signs Limited (active site)

Dantzic Street
Fence
Car park
Building
Tarmac
Farlam Waste Management Limited (site closed)
Tarmac
Hedgerow
Tree
Wall
PHD1 Construction Limited (active construction site)
Building
No access
Concrete slabs
Building
Astra Signs Limited (active site)
Drain
Manhole
Cracked concrete floor
Retaining wall
Trees and vegetation
Corrugated metal structure
No access
Location of former above ground fuel storage tank

Rev	Date	Description	By	Ckd

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Client :

LAND PROPERTY INVESTMENT COMPANY LTD

Project Title:

DANTZIC STREET, MANCHESTER

Drawing Title:

Site Features Plan

Drawing Status: FINAL

Hydrock Job No: C/151819

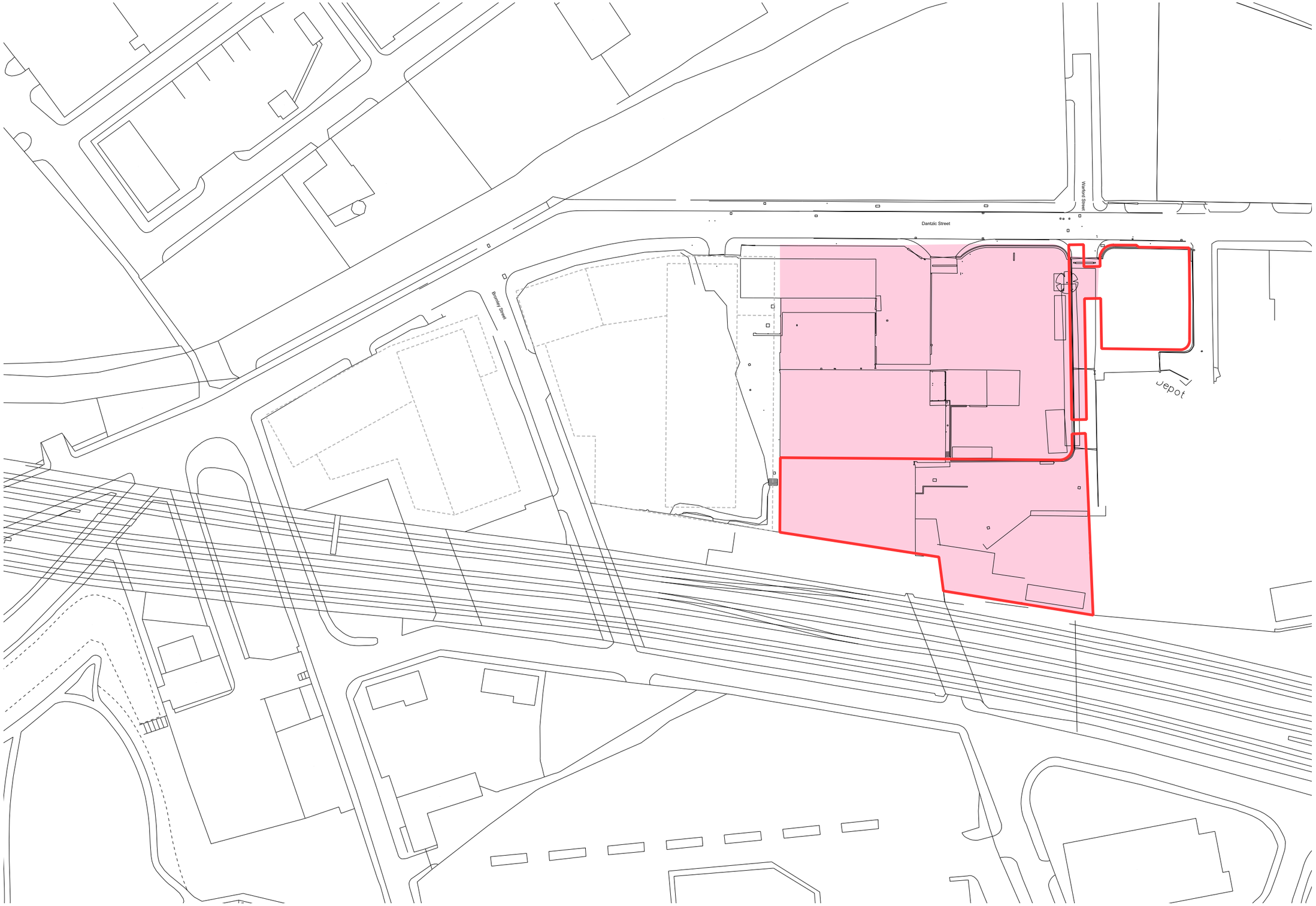
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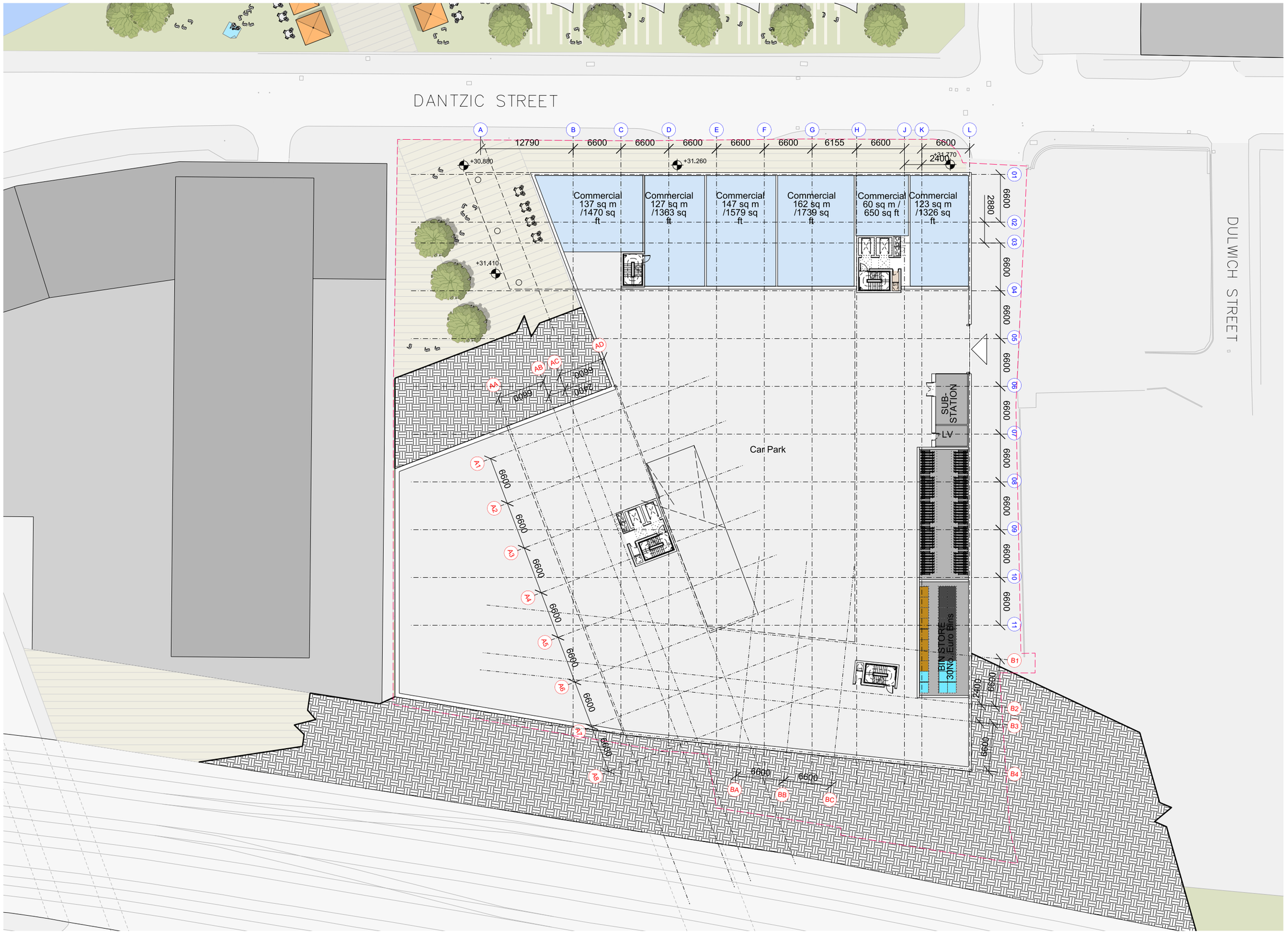
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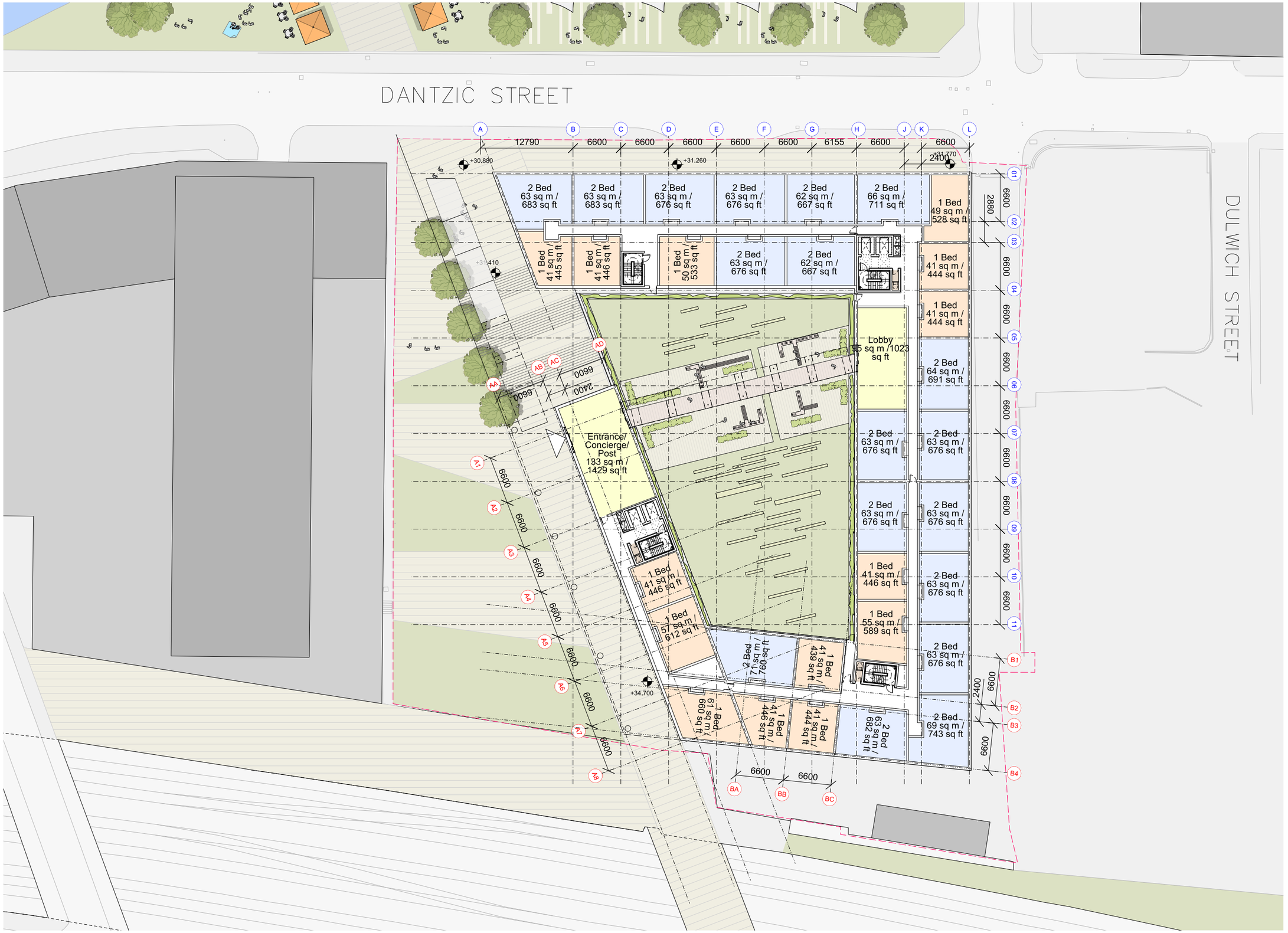
Revision: -

This drawing is the copyright of Hydrock Consultants Ltd

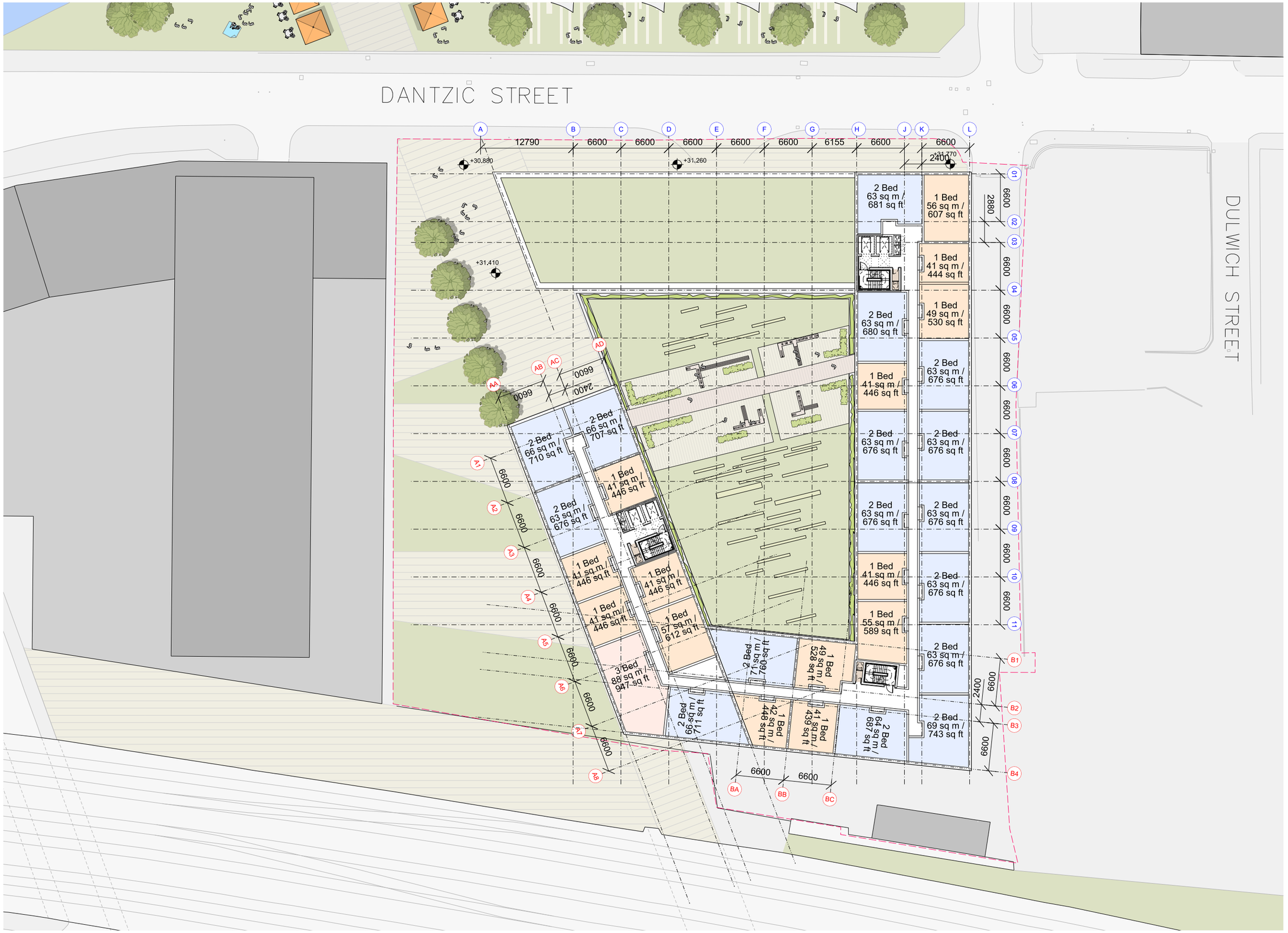
Existing Site Plan: 1:500 @A3




DANTZIC STREET
DULWICH STREET
A
B
C
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J
K
L
12790
6600
6600
6600
6600
6600
6155
6600
6600
2400
+30.880
+31.260
+31.270
+31.410
Commercial 137 sq m /1470 sq ft
Commercial 127 sq m /1363 sq ft
Commercial 147 sq m /1579 sq ft
Commercial 162 sq m /1739 sq ft
Commercial 60 sq m / 650 sq ft
Commercial 123 sq m /1326 sq ft
2880
6600
Car Park
SUB-STATION
LV
BIN STORE
30No. Euro Bins
1200
AA
AB
AC
AD
A1
A2
A3
A4
A5
A6
BA
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B2
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DANTZIC STREET
DULWICH STREET
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6600
6600
6600
6155
6600
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2400
+30.880
+31.260
+31.770
2 Bed 63 sq m / 683 sq ft
2 Bed 63 sq m / 683 sq ft
2 Bed 63 sq m / 676 sq ft
2 Bed 63 sq m / 676 sq ft
2 Bed 62 sq m / 667 sq ft
2 Bed 66 sq m / 711 sq ft
1 Bed 49 sq m / 528 sq ft
1 Bed 41 sq m / 445 sq ft
1 Bed 41 sq m / 446 sq ft
1 Bed 50 sq m / 533 sq ft
2 Bed 63 sq m / 676 sq ft
2 Bed 62 sq m / 667 sq ft
+31.410
1 Bed 41 sq m / 444 sq ft
1 Bed 41 sq m / 444 sq ft
Lobby 95 sq m /1023 sq ft
2 Bed 64 sq m / 691 sq ft
2880
6600
6600
6600
6600
6600
6600
6600
6600
6600
6600
6600
6600
AA
AB
AC
AD
6600
2400
6600
Entrance/ Concierge/ Post 133 sq m / 1429 sq ft
2 Bed 63 sq m / 676 sq ft
2 Bed 63 sq m / 676 sq ft
A1
A2
A3
A4
A5
A6
A7
A8
1 Bed 41 sq m / 446 sq ft
1 Bed 57 sq m / 612 sq ft
1 Bed 41 sq m / 446 sq ft
1 Bed 55 sq m / 589 sq ft
2 Bed 63 sq m / 676 sq ft
2 Bed 76 sq m / 817 sq ft
1 Bed 41 sq m / 439 sq ft
2 Bed 63 sq m / 676 sq ft
+34.700
1 Bed 61 sq m / 660 sq ft
1 Bed 41 sq m / 446 sq ft
1 Bed 41 sq m / 444 sq ft
2 Bed 63 sq m / 682 sq ft
2 Bed 69 sq m / 743 sq ft
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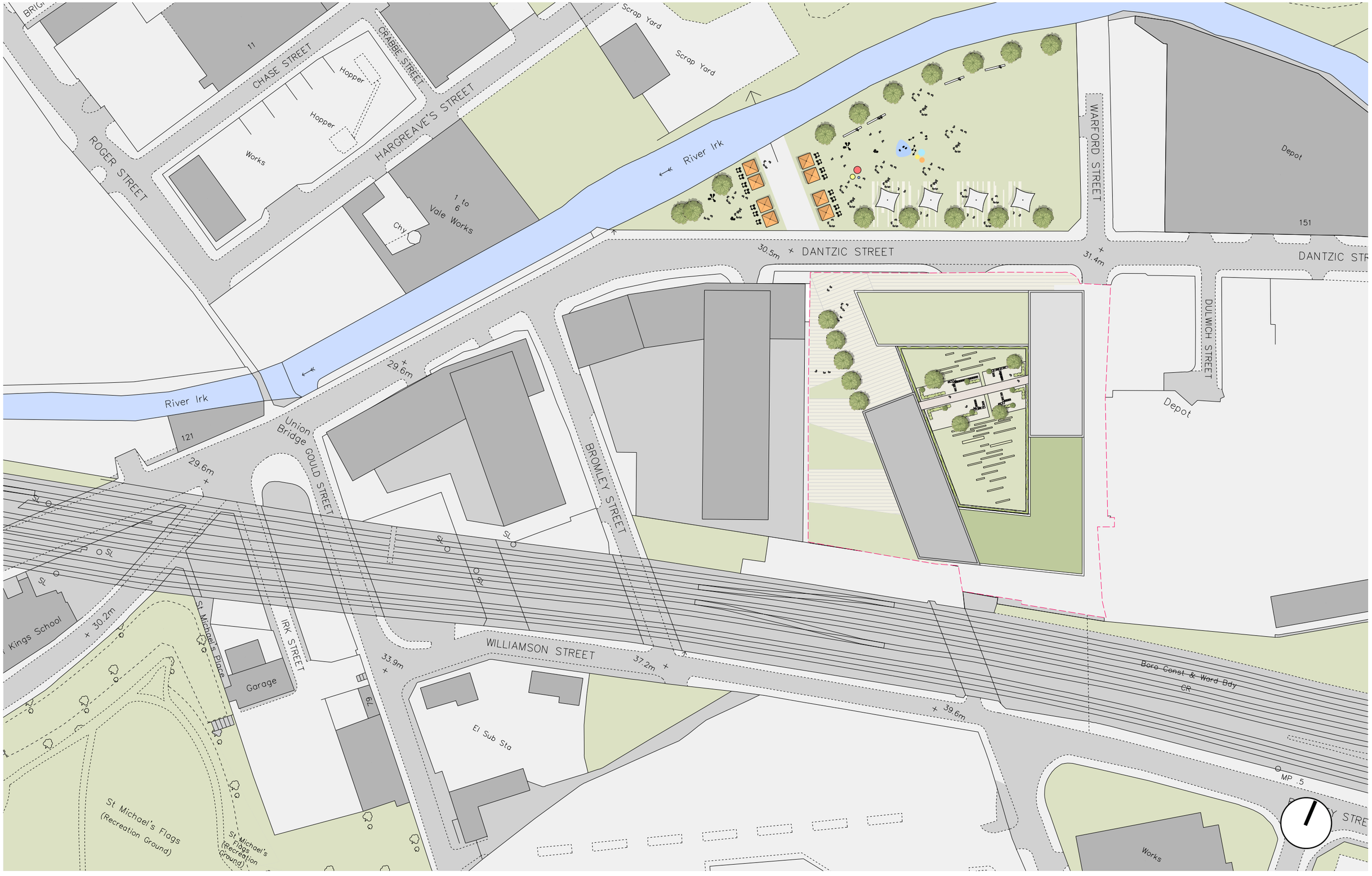

DANTZIC STREET
DULWICH STREET
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6155
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6600
2400
+30.880
+31.260
+31.170
+31.410
2 Bed 63 sq m / 683 sq ft
2 Bed 64 sq m / 686 sq ft
2 Bed 64 sq m / 686 sq ft
2 Bed 62 sq m / 672 sq ft
2 Bed 62 sq m / 667 sq ft
2 Bed 66 sq m / 711 sq ft
1 Bed 49 sq m / 528 sq ft
1 Bed 41 sq m / 445 sq ft
1 Bed 41 sq m / 446 sq ft
1 Bed 51 sq m / 545 sq ft
2 Bed 62 sq m / 672 sq ft
2 Bed 62 sq m / 672 sq ft
1 Bed 41 sq m / 444 sq ft
1 Bed 40 sq m / 431 sq ft
1 Bed 41 sq m / 444 sq ft
2 Bed 64 sq m / 691 sq ft
2 Bed 64 sq m / 691 sq ft
2 Bed 66 sq m / 710 sq ft
2 Bed 66 sq m / 707 sq ft
2 Bed 63 sq m / 676 sq ft
2 Bed 63 sq m / 676 sq ft
1 Bed 41 sq m / 444 sq ft
1 Bed 41 sq m / 446 sq ft
1 Bed 41 sq m / 444 sq ft
1 Bed 41 sq m / 446 sq ft
2 Bed 63 sq m / 682 sq ft
2 Bed 63 sq m / 682 sq ft
2 Bed 65 sq m / 695 sq ft
1 Bed 41 sq m / 444 sq ft
2 Bed 64 sq m / 686 sq ft
1 Bed 57 sq m / 612 sq ft
1 Bed 54 sq m / 585 sq ft
3 Bed 86 sq m / 931 sq ft
2 Bed 64 sq m / 686 sq ft
2 Bed 67 sq m / 718 sq ft
2 Bed 66 sq m / 711 sq ft
1 Bed 41 sq m / 446 sq ft
1 Bed 41 sq m / 444 sq ft
2 Bed 63 sq m / 682 sq ft
2 Bed 67 sq m / 709 sq ft
1 Bed 49 sq m / 529 sq ft
2880
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DANTZIC STREET
DULWICH STREET
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6155
6600
6600
2400
+30.880
+31.260
+31.770
+31.410
2 Bed
63 sq m /
681 sq ft
1 Bed
56 sq m /
607 sq ft
1 Bed
41 sq m /
444 sq ft
1 Bed
49 sq m /
530 sq ft
2 Bed
63 sq m /
680 sq ft
2 Bed
63 sq m /
676 sq ft
1 Bed
41 sq m /
446 sq ft
2 Bed
63 sq m /
676 sq ft
2 Bed
66 sq m /
710 sq ft
2 Bed
66 sq m /
707 sq ft
1 Bed
41 sq m /
446 sq ft
2 Bed
63 sq m /
676 sq ft
2 Bed
63 sq m /
676 sq ft
1 Bed
41 sq m /
446 sq ft
1 Bed
41 sq m /
446 sq ft
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41 sq m /
446 sq ft
1 Bed
41 sq m /
446 sq ft
1 Bed
55 sq m /
589 sq ft
2 Bed
63 sq m /
676 sq ft
1 Bed
41 sq m /
446 sq ft
1 Bed
57 sq m /
612 sq ft
3 Bed
88 sq m /
947 sq ft
2 Bed
71 sq m /
760 sq ft
1 Bed
49 sq m /
528 sq ft
2 Bed
66 sq m /
711 sq ft
1 Bed
42 sq m /
448 sq ft
1 Bed
41 sq m /
439 sq ft
2 Bed
64 sq m /
687 sq ft
2 Bed
69 sq m /
743 sq ft
2880
2400
6600

Level 09 - 1:200 @ A3



Roof Level - 1:200 @ A3



Residential Numbers

	Unit Numbers					GIA - Apartments		Overall GIA	
	1 Bed / 2p	2 Bed	3 Bed	Total	Parking				
Manchester Standard Area	*50 sqm*	*61 sqm*	*74 sqm*			sqm	sq ft	sqm	sq ft
Level									
RF	-	-	-	**0**	0	-	-	799	8600
21	4	5	1	**10**	0	799	8600	799	8600
20	4	5	1	**10**	0	799	8600	799	8600
19	4	5	1	**10**	0	799	8600	799	8600
18	4	5	1	**10**	0	799	8600	799	8600
17	4	5	1	**10**	0	799	8600	799	8600
16	4	5	1	**10**	0	799	8600	799	8600
15	4	5	1	**10**	0	799	8600	1483	15963
14	7	11	1	**19**	0	1483	15963	1483	15963
13	7	11	1	**19**	0	1483	15963	1483	15963
12	7	11	1	**19**	0	1483	15963	1483	15963
11	7	11	1	**19**	0	1483	15963	1483	15963
10	7	11	1	**19**	0	1483	15963	1483	15936
9	7	11	1	**19**	0	1483	15936	1483	15936
8	7	11	1	**19**	0	1483	15963	1483	15963
7	15	17	-	**32**	0	2394	25771	2394	25771
6	15	17	-	**32**	0	2394	25771	2394	25771
5	16	25	-	**41**	0	3115	33959	3115	33959
4	16	25	-	**41**	0	3115	33959	3115	33959
3	16	25	-	**41**	0	3115	33959	3115	33959
2	12	17	3	**32**	0	2871	30907	3544	38147
1	12	17	3	**32**	0	2871	30907	4246	45707
0M	-	-	-	**0**	TBC	-	-	4283	46100
0	-	-	-	**0**	TBC	-	-	5153	55460
TOTAL	**179**	**255**	**20**	**454**	**0**	**35849**	**387147**	**48816**	**526683**
Mix %	39%	56%	4%	100%		sqm	sq ft	sqm	sq ft

Notes

1 All areas are approximate. The scheme illustrated is indicative only, and has not been the subject of a detailed design or co-ordination exercise. The areas should therefore not be relied upon for the basis of development appraisal.
2 Parking spaces are subject to M&E, Structural & other design team consultant coordination
3 Residential NIA is the sum of the Residential Unit Areas (i.e. excludes all internal party walls)
4 Commercial GIA is the sum of the individual Commercial Unit Areas
5 All areas in the table are based on information contained within SHp layouts dated September 2015.
6 Please note that the number of units is subject to design development.

Appendix B

Site Walkover Photographs



Figure 1: View southeast in the southern corner of the site. Note the structures and retaining wall.



Figure 2: View westwards in the southern section of the site.



Figure 3: Close-up of the drain feature in the southern section of the site.



Figure 4: Retaining wall towards the southern portion of the eastern site boundary.



Figure 5: View northwards from the southeast of the site.



Figure 6: View northeast towards the south eastern boundary of the site.



Figure 7: View along the central part of the eastern site boundary.



Figure 8: View west across the car park of the Farlam Waste Management Limited section of the site.

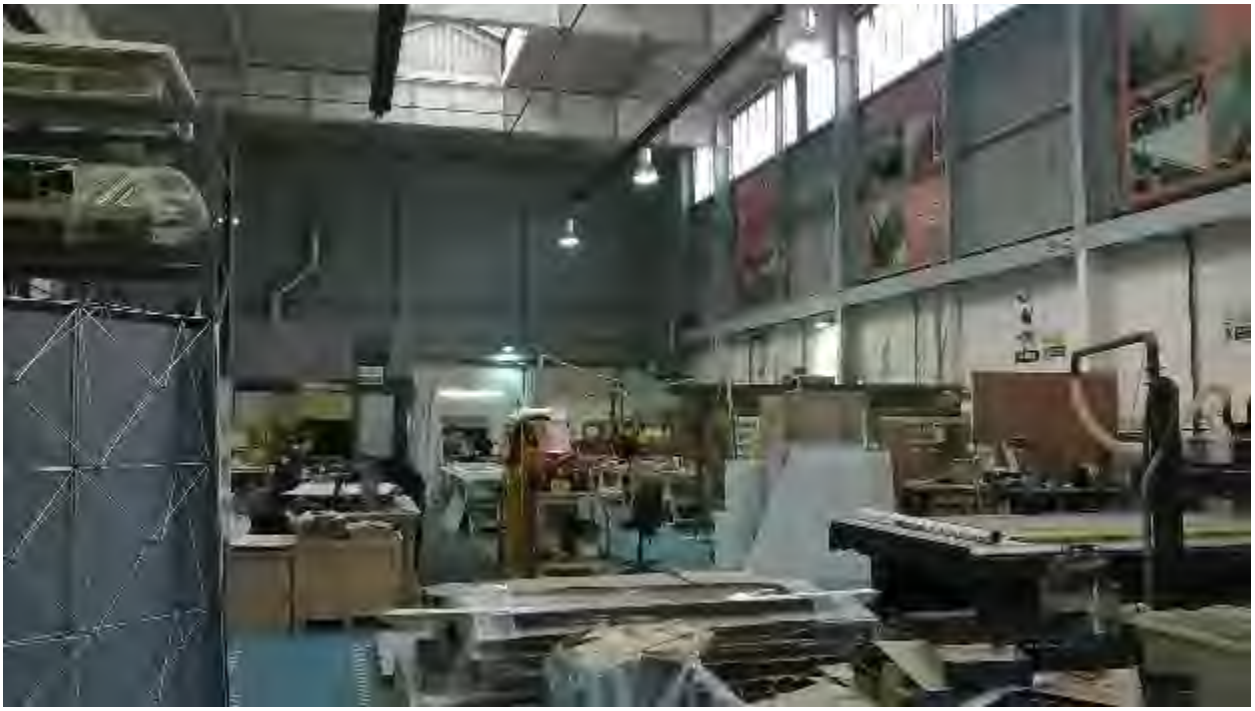


Figure 9: Machinery inside the main building in the Astra Signs Ltd area.



Figure 10: Machinery inside the main building in the Astra Signs Ltd area.



Figure 11: Machinery inside the main building in the Astra Signs Limited area.



Figure 12: View southwest towards the main building in the Astra Signs Limited area.



Figure 13: View southwest towards the loading bays of the main building in the Astra Signs Limited area.



Figure 14: View northwest across the carpark of the Astra Signs Limited area.



Figure 15: View northeast showing the northern site boundary as well as the boundary between the Farlam Waste Management Limited and Astra Signs Limited areas.



Figure 16: View northeast along Danztic Road, also showing the north western site boundary.

Appendix C

Historical Ordnance Survey Maps



Site Details:

DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: 1056 Scale Town Plan

Map date: **1850**

Scale: 1:1,056

Printed at: 1:1,056

N
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Surveyed 1848
Revised N/A
Edition 1850
Copyright N/A
Levelled N/A

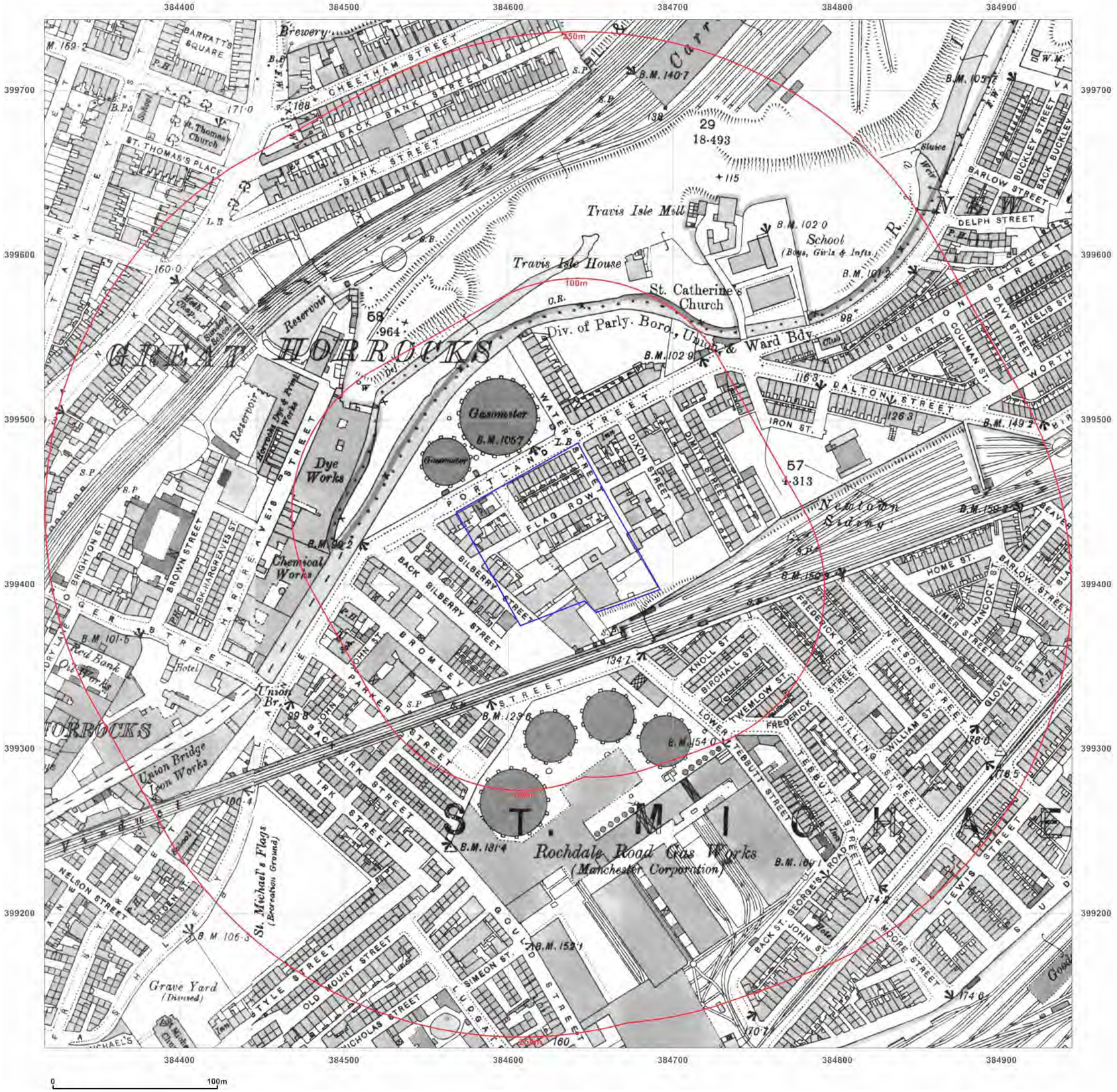
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Production date: 24 November 2015

To view map legend click here *Legend*



Site Details:

DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: County Series

Map date: **1892-1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

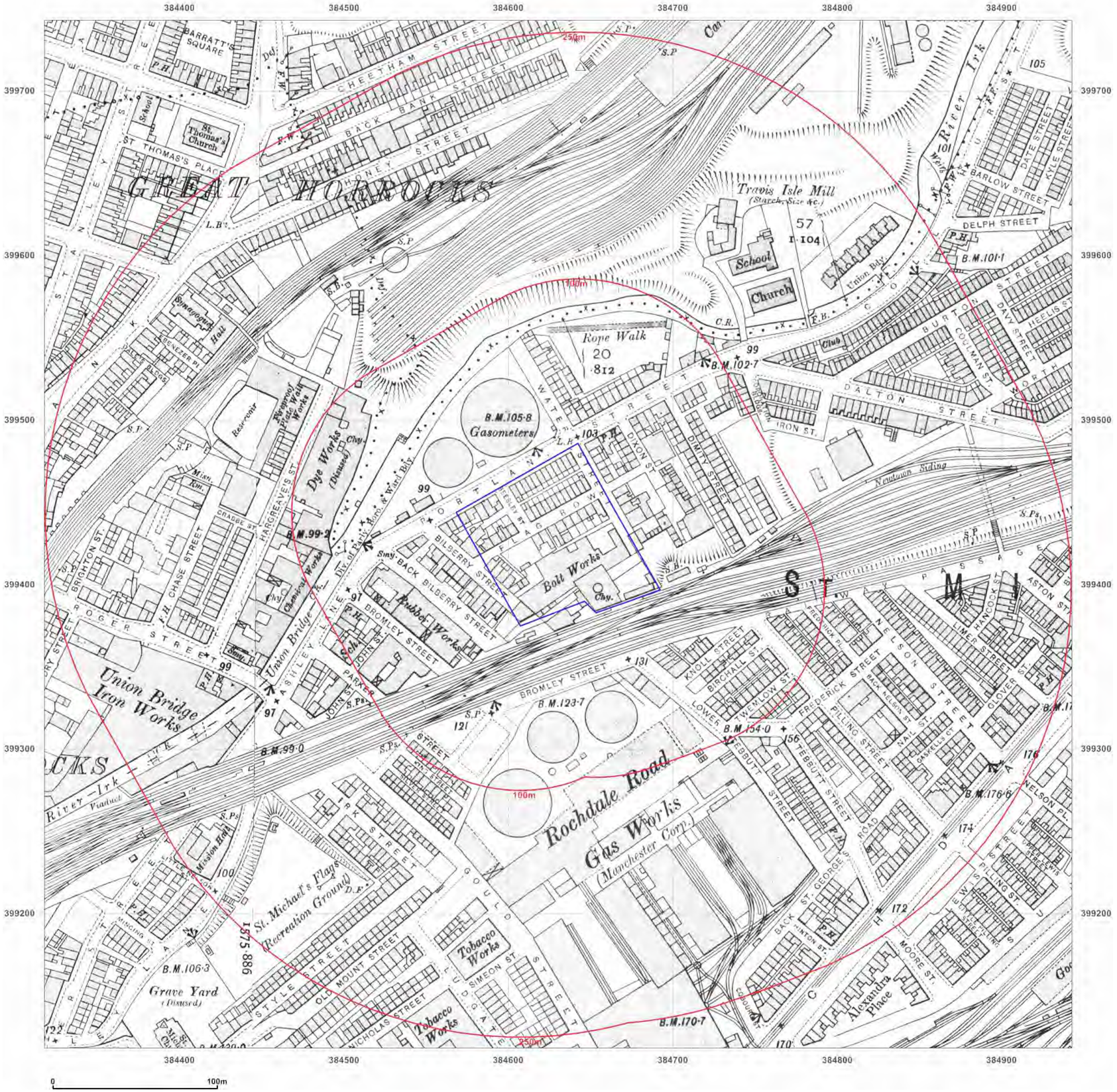
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Production date: 24 November 2015

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Site Details:	DANTZIC STREET, MANCHESTER
Client Ref:	C151819-S15438
Report Ref:	HYD-2605571
Grid Ref:	384630, 399431
Map Name:	County Series
Map date:	**1908**
Scale:	1:2,500
Printed at:	1:2,500

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Surveyed 1908
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1908
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

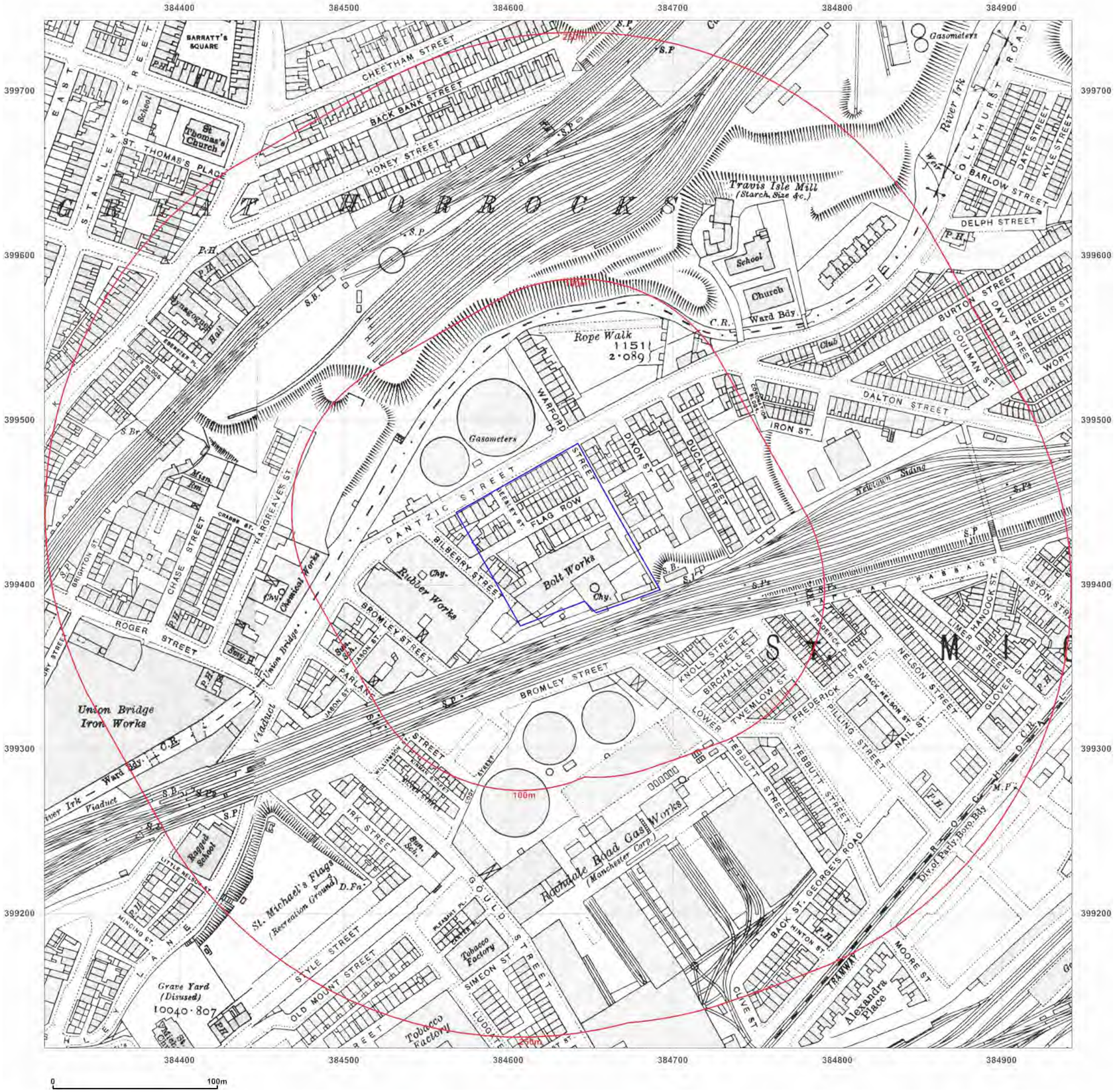
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Site Details:

DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

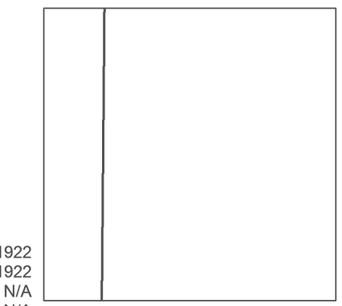
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Printed at: 1:2,500

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Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

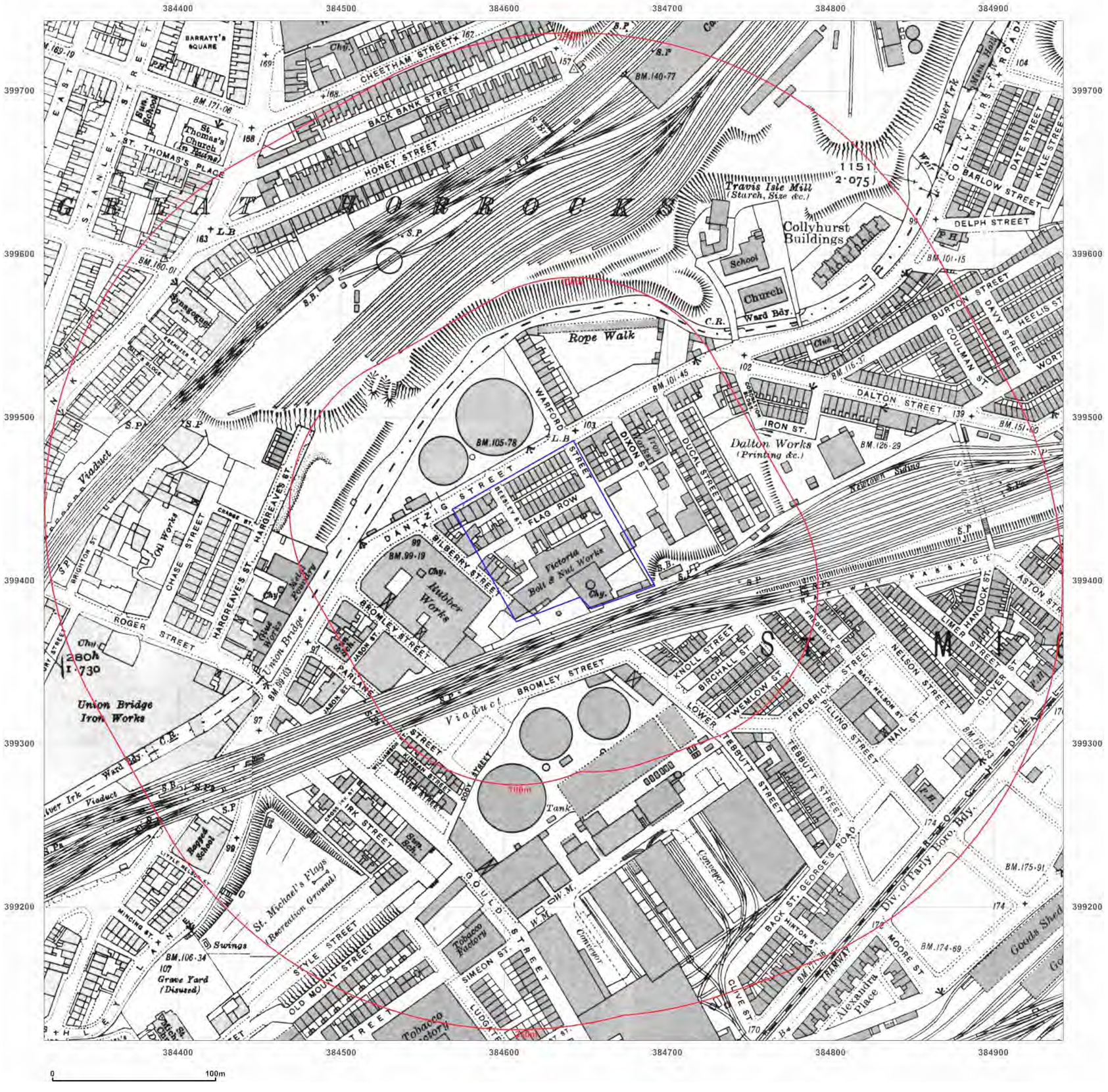
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Site Details:

DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: County Series

Map date: **1931-1933**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1933
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1931
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1949**

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Printed at: 1:2,500

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Surveyed 1949
Revised 1949
Edition N/A
Copyright N/A
Levelled 1929

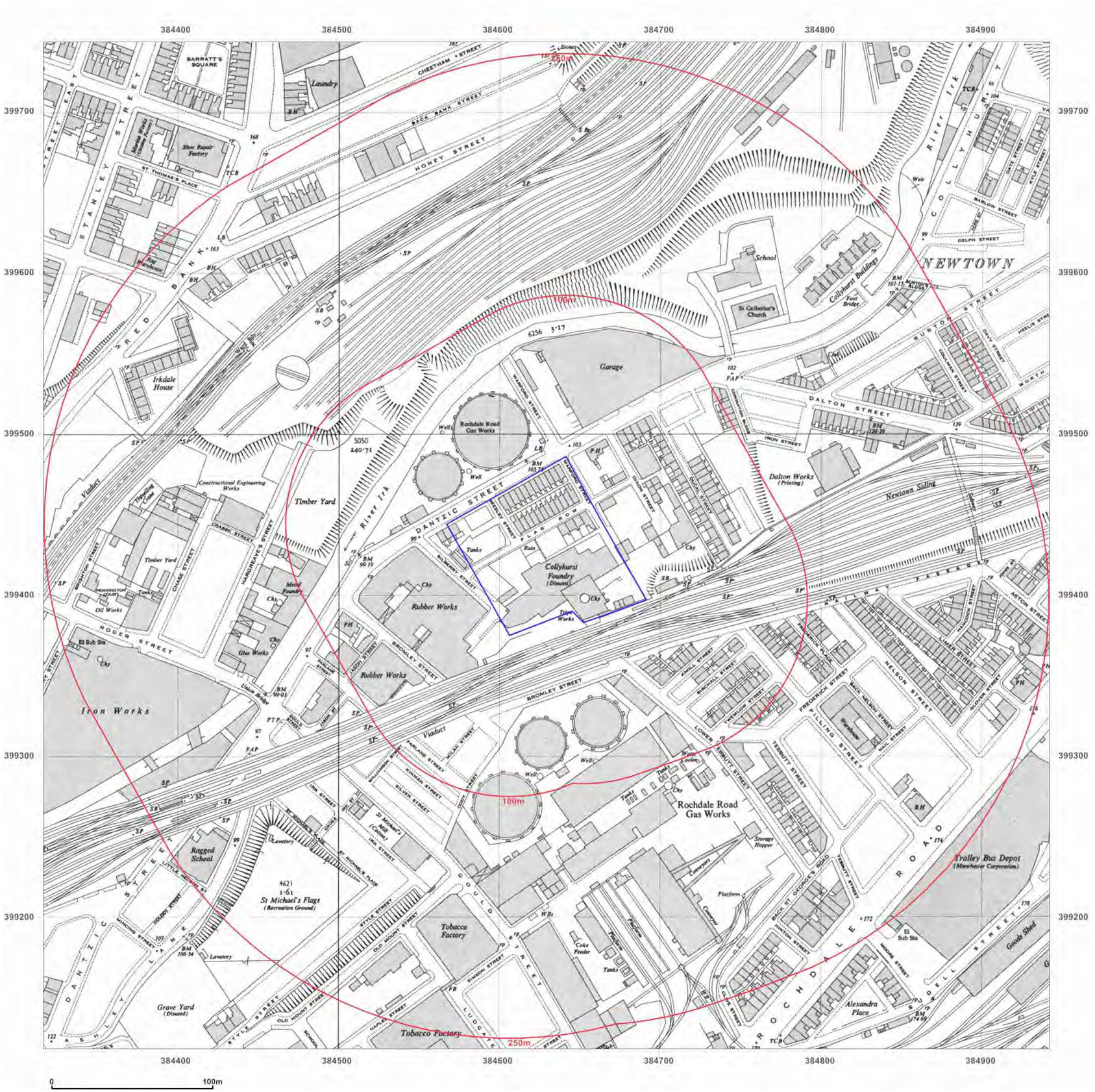
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Site Details:

DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1952**

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Revised 1952
Edition N/A
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Levelled 1929

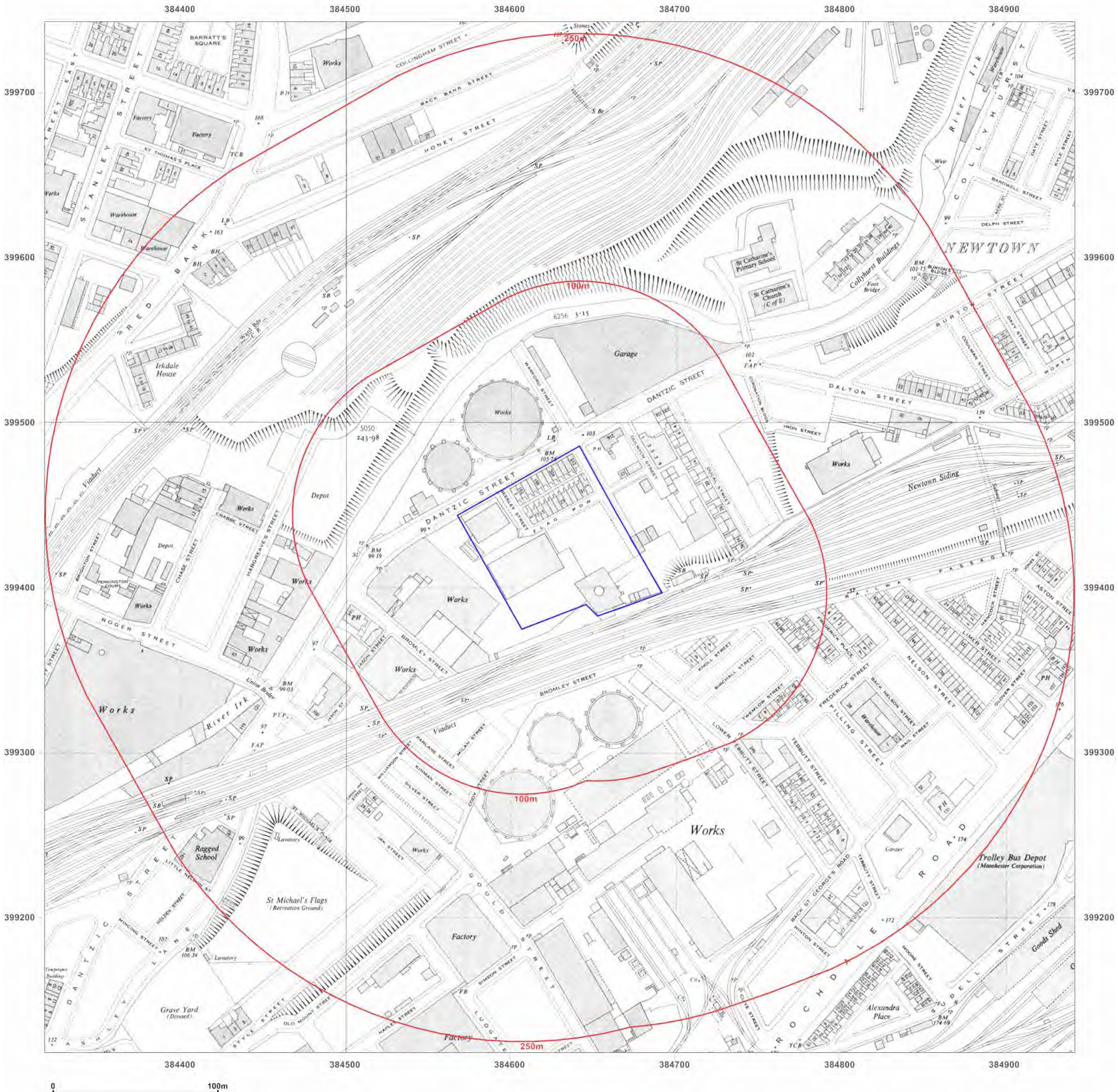
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Site Details:

DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1958**

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Surveyed 1958
Revised 1958
Edition 1959
Copyright 1959
Levelled 1929

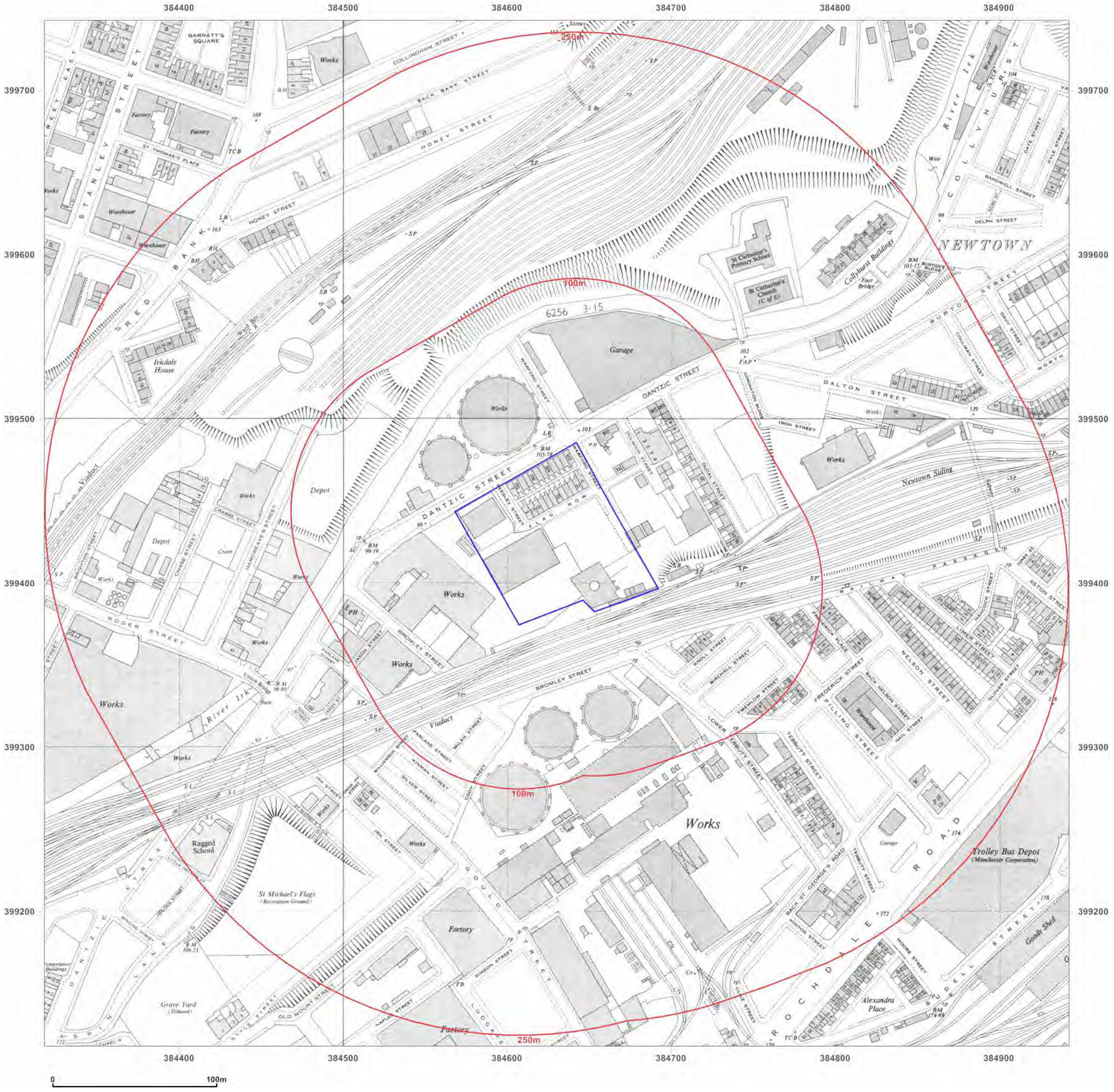
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Site Details:

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MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1964**

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Printed at: 1:2,500

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Surveyed 1964
Revised 1964
Edition 1966
Copyright 1966
Levelled 1964

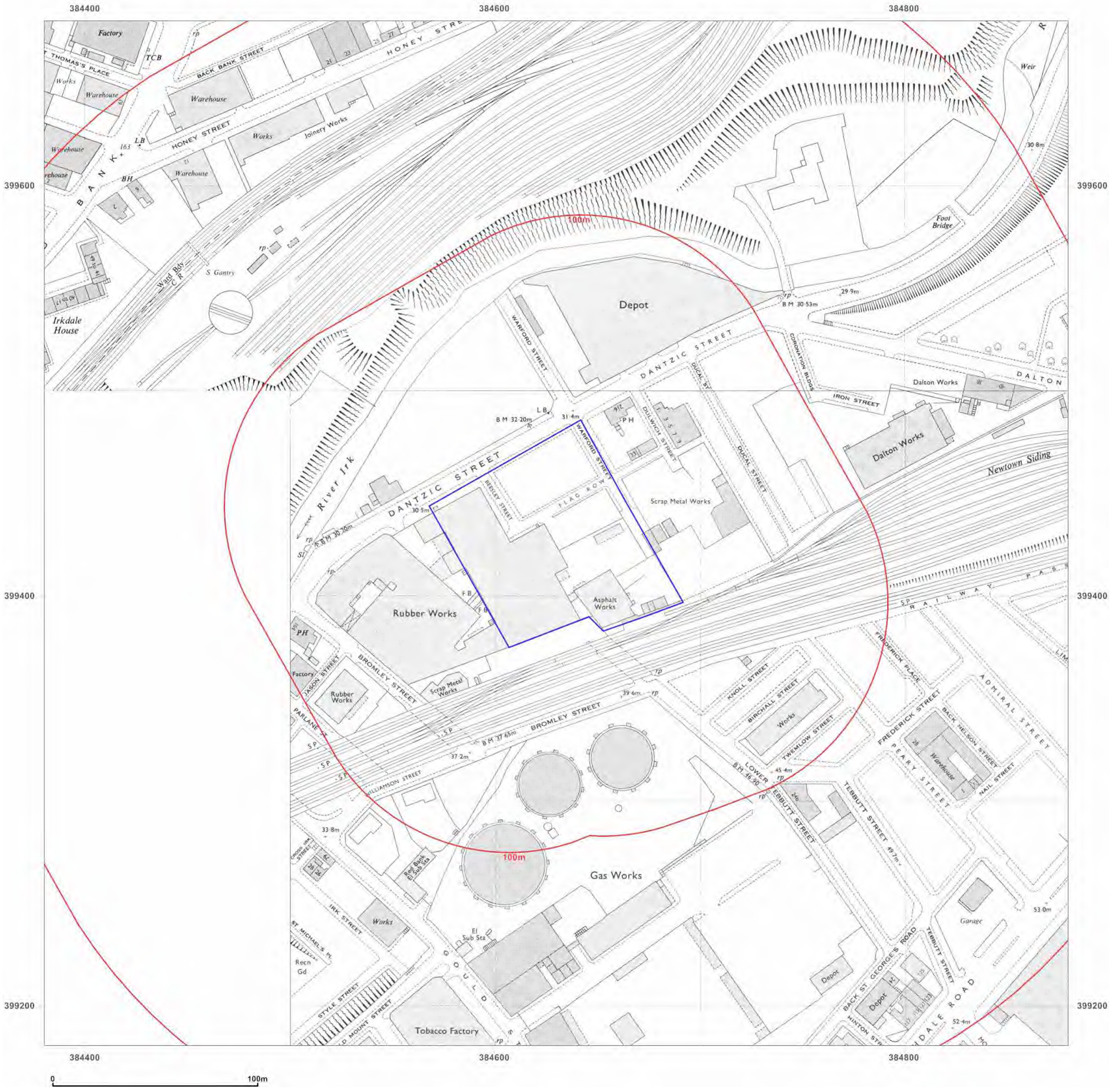
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Site Details:

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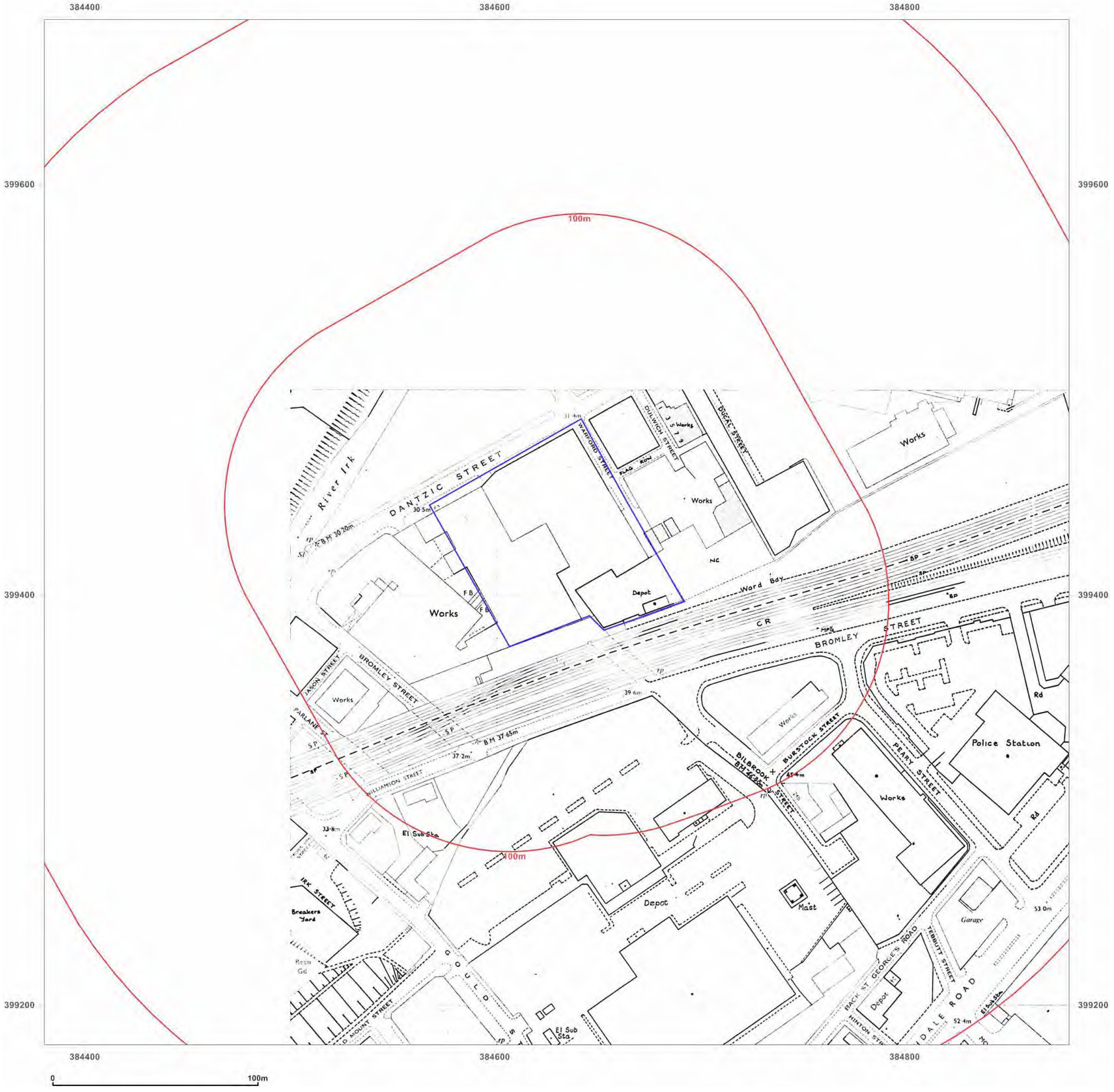
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Site Details:

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Grid Ref: 384630, 399431

Map Name: National Grid

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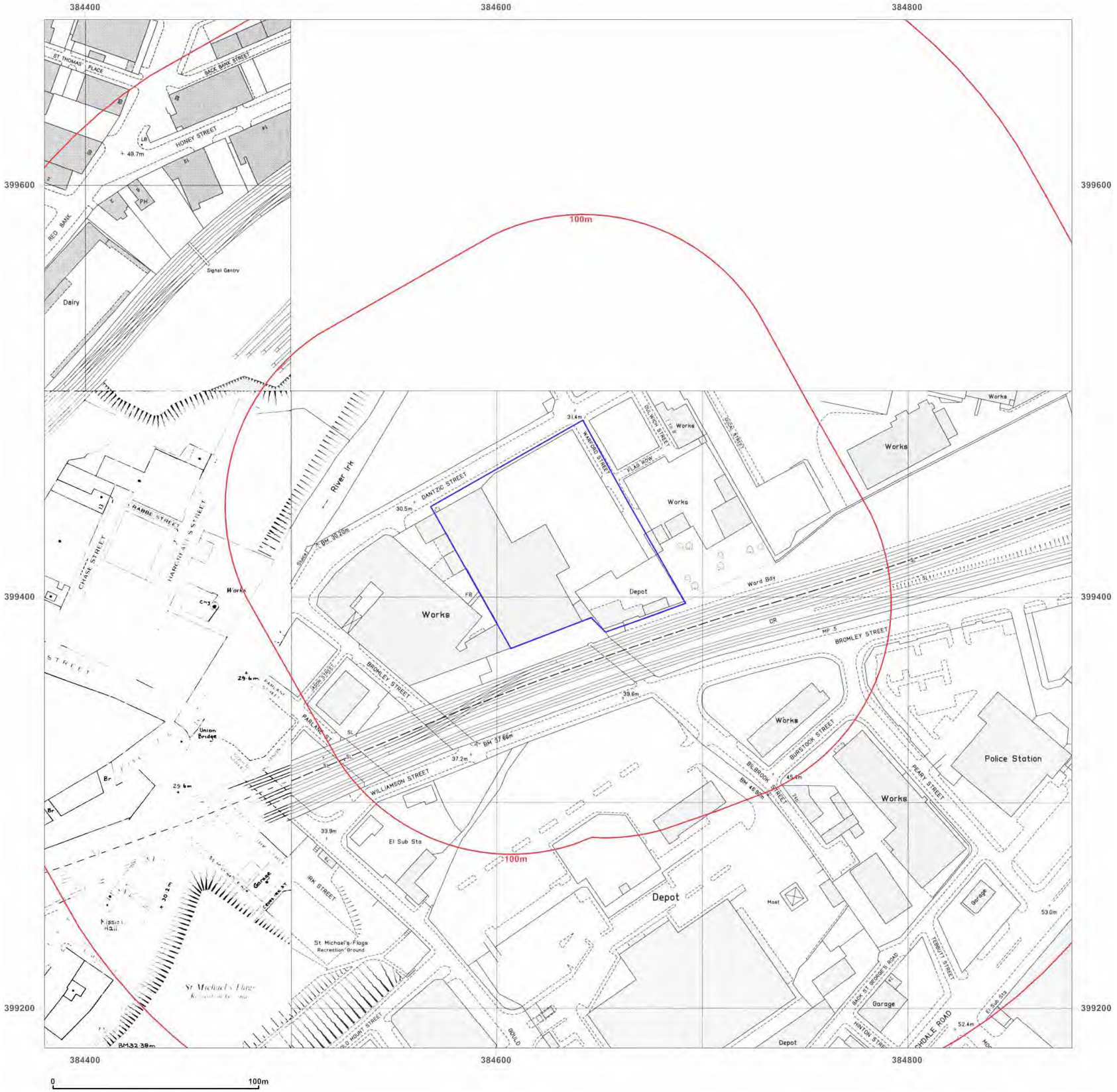
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Site Details:

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MANCHESTER

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Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1984-1989**

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Printed at: 1:2,000

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MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1990-1992**

Scale: 1:1,250

Printed at: 1:2,000

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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1992-1993**

Scale: 1:1,250

Printed at: 1:2,000

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Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1993-1995**

Scale: 1:1,250

Printed at: 1:2,000

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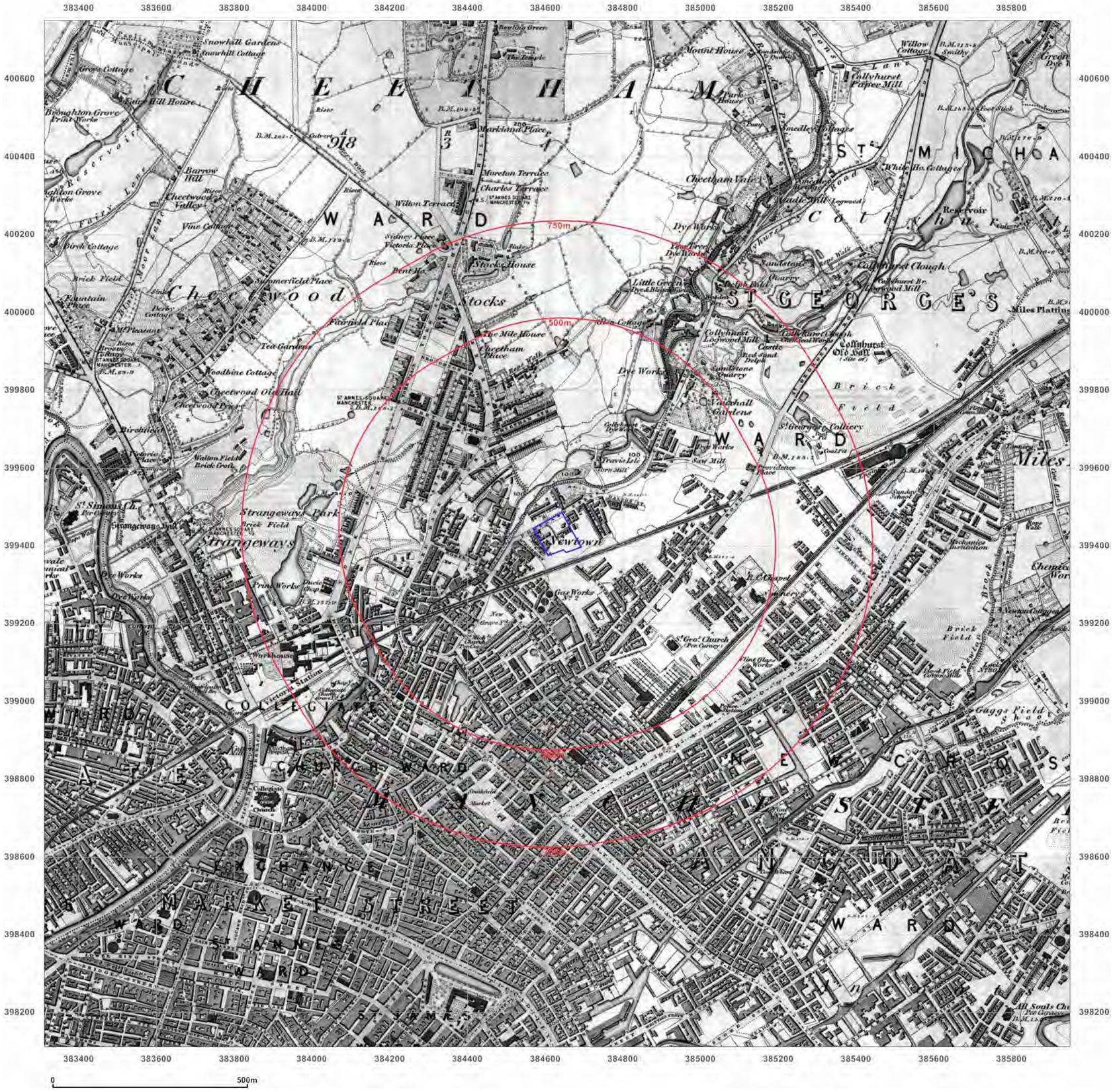
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MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: County Series

Map date: **1848**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1845
Revised N/A
Edition 1848
Copyright N/A
Levelled N/A

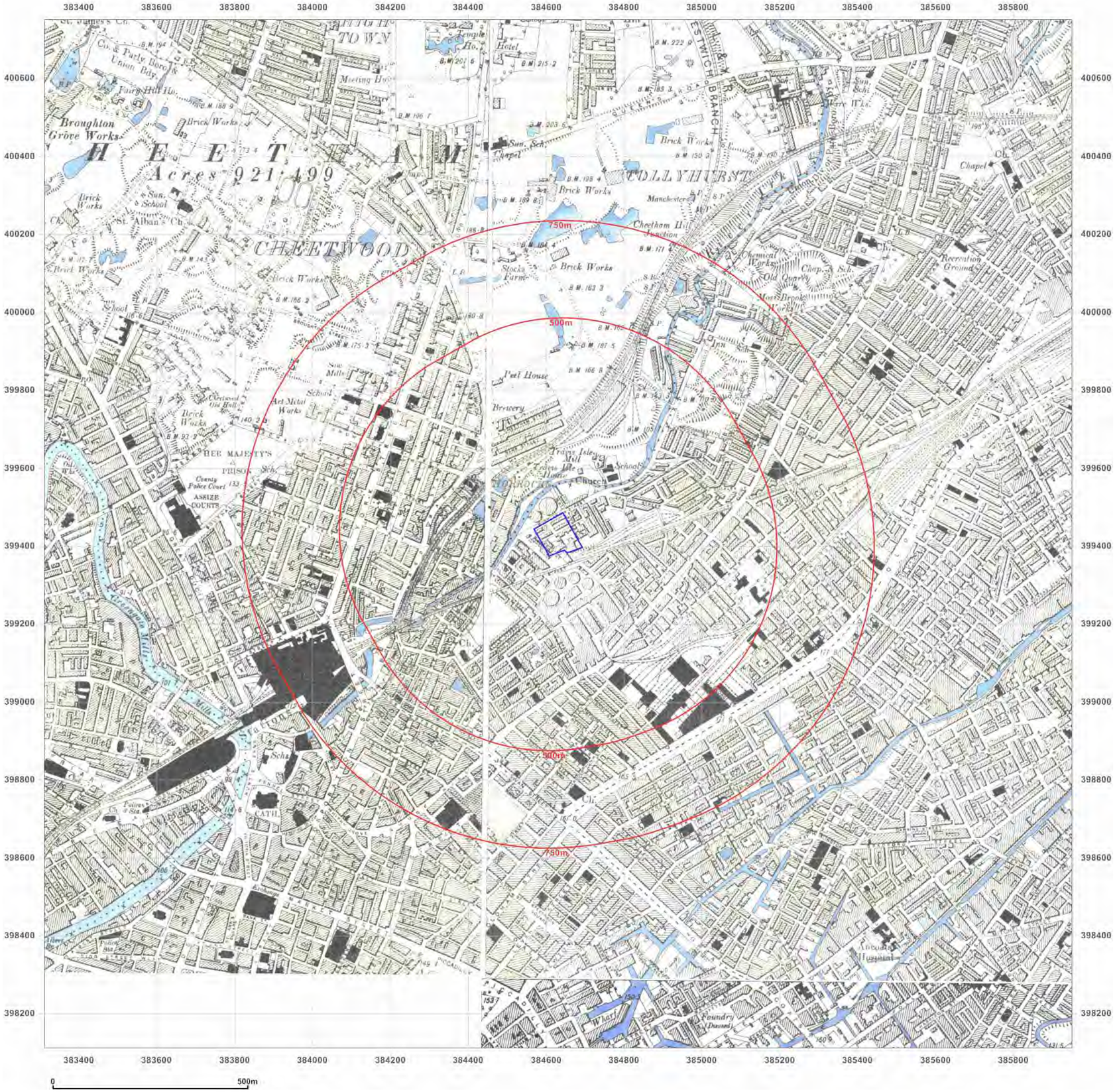
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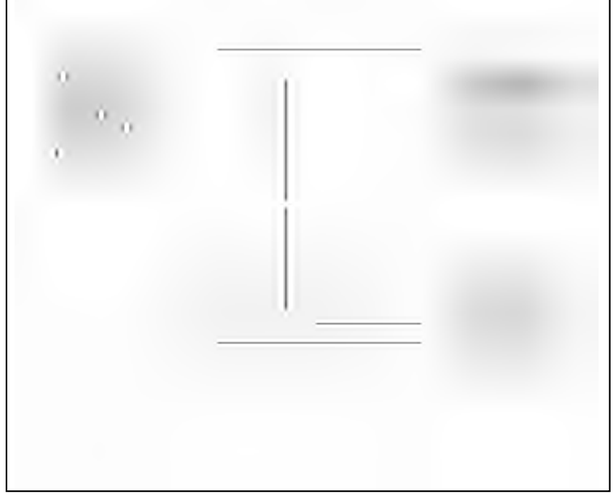
Map Name: County Series

Map date: **1890-1894**

Scale: 1:10,560

Printed at: 1:10,560

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Report Ref: HYD-2605571
Grid Ref: 384630, 399431

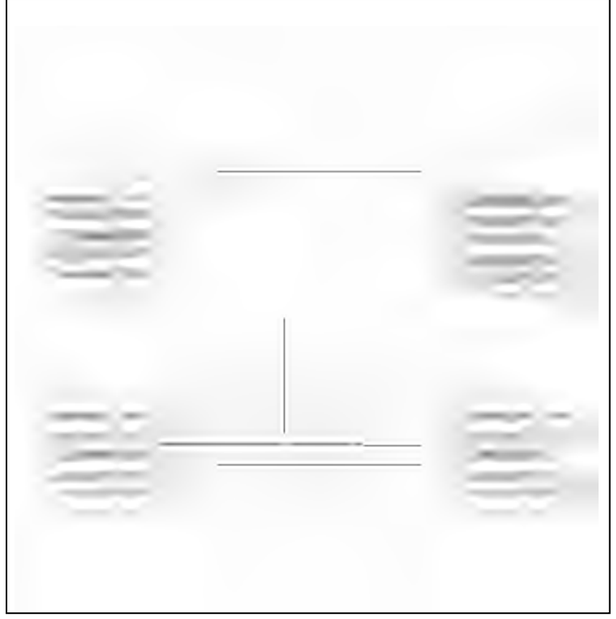
Map Name: County Series

Map date: **1905-1906**

Scale: 1:10,560

Printed at: 1:10,560

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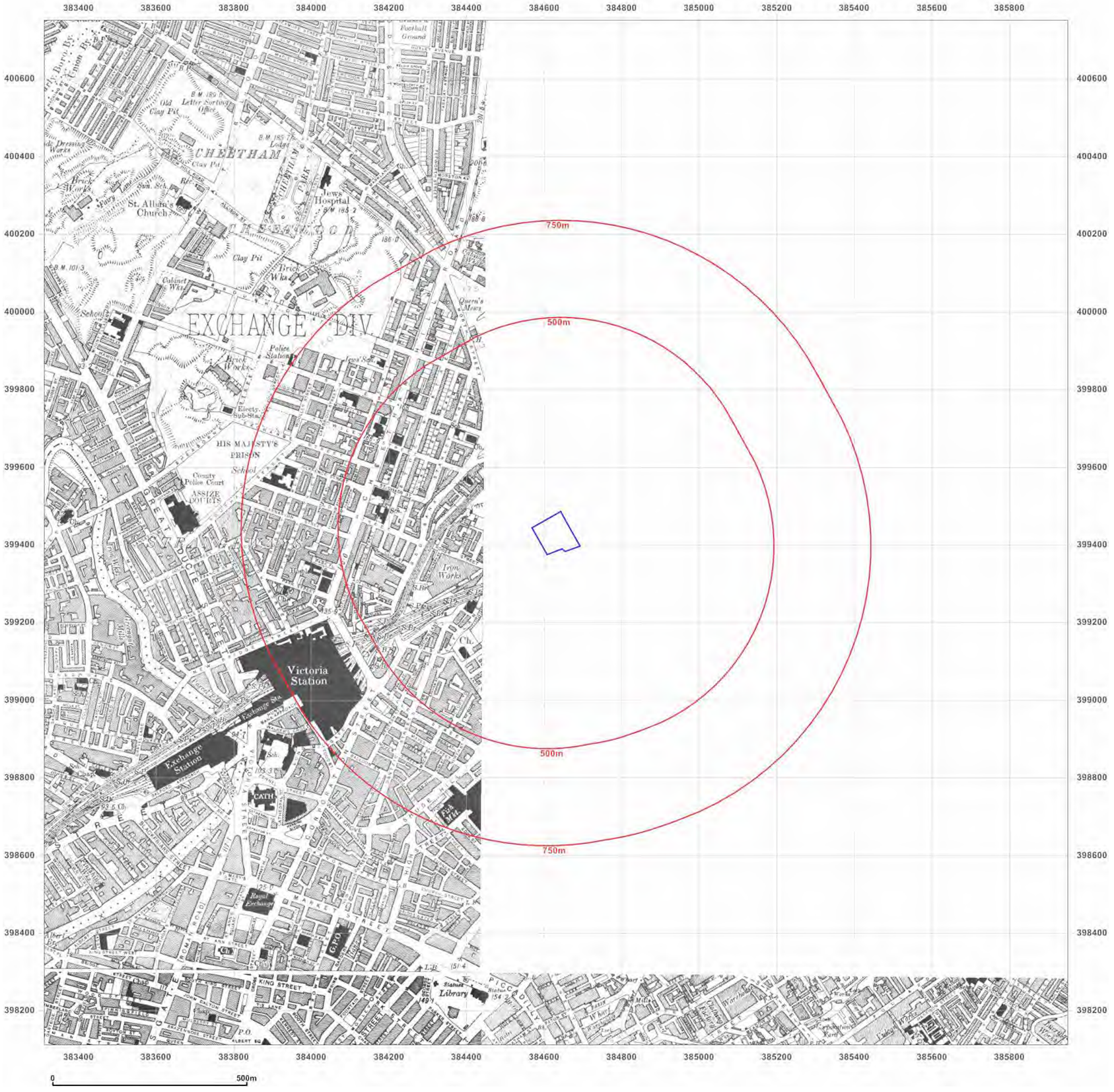
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Grid Ref: 384630, 399431

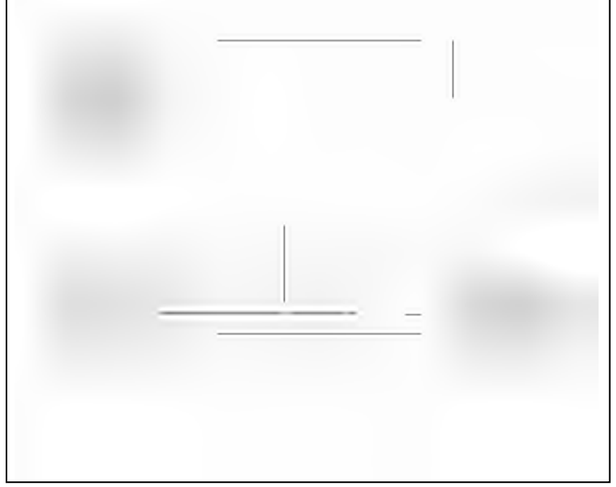
Map Name: County Series

Map date: **1915-1916**

Scale: 1:10,560

Printed at: 1:10,560

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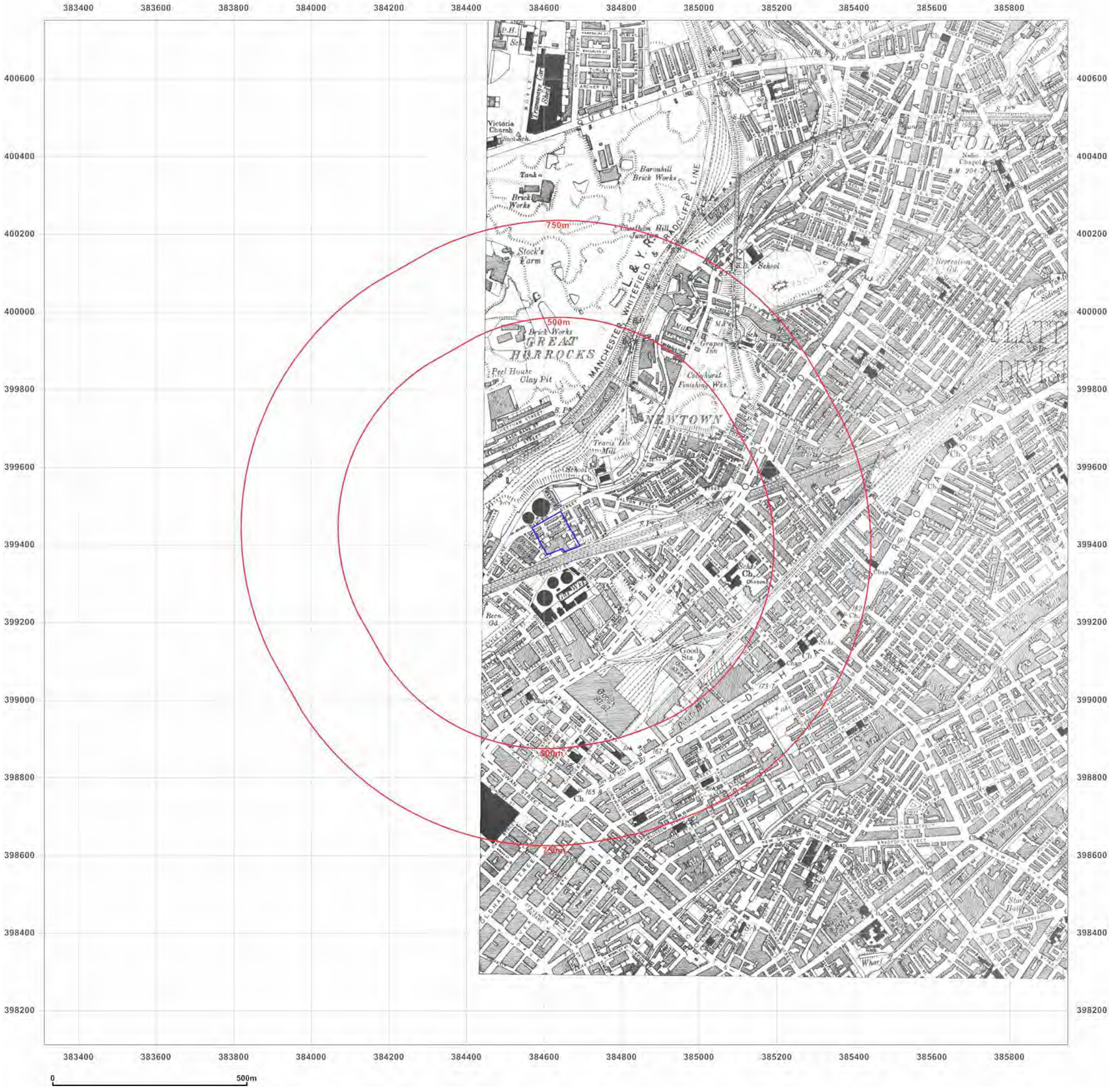
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Site Details:

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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

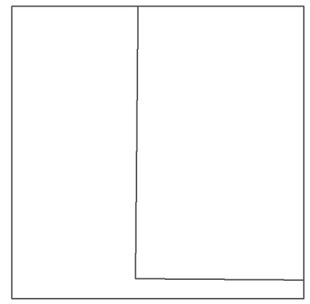
Map Name: County Series

Map date: **1921**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1844
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A

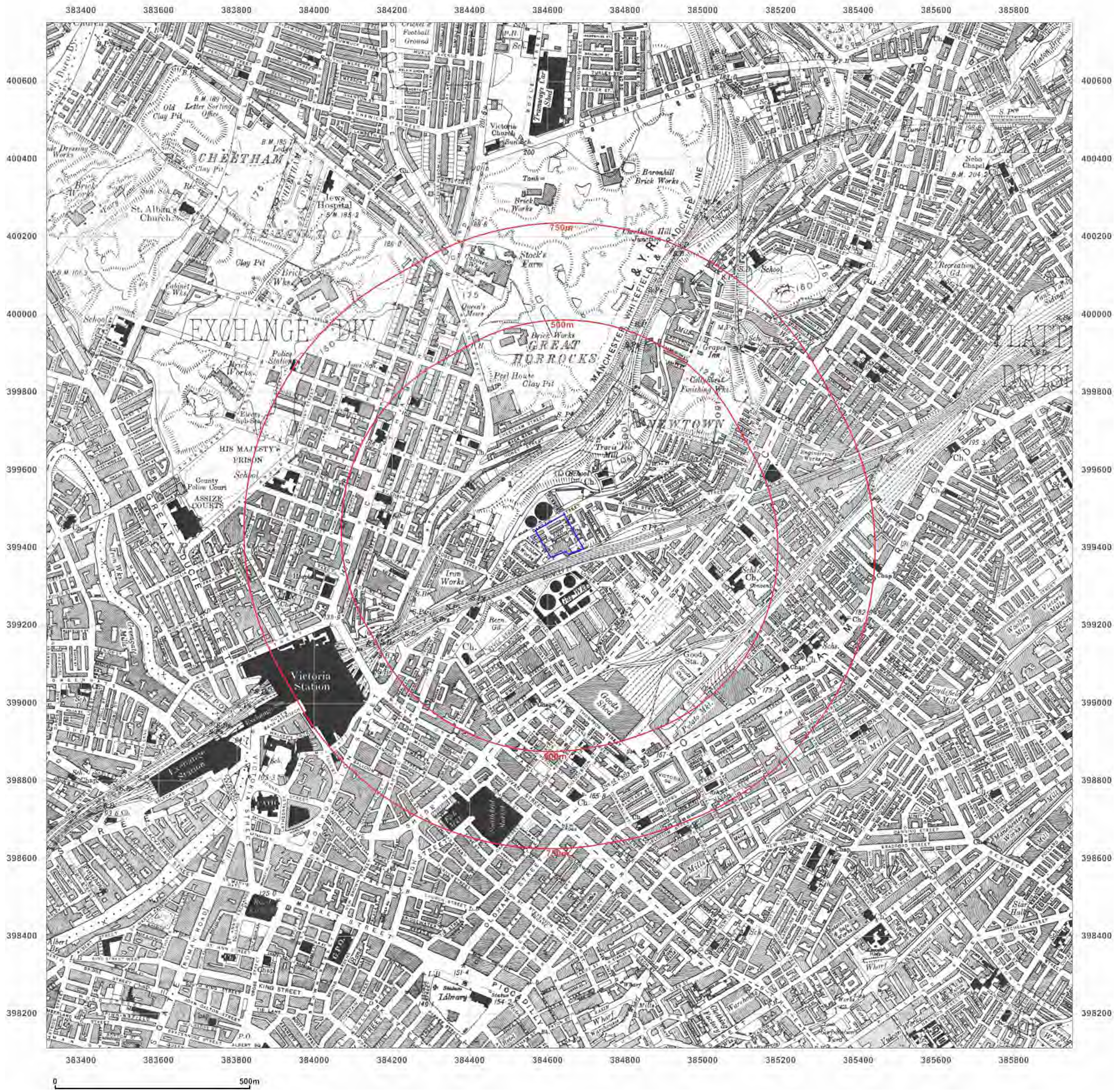
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DANTZIC STREET,
MANCHESTER

Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: County Series

Map date: **1923**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

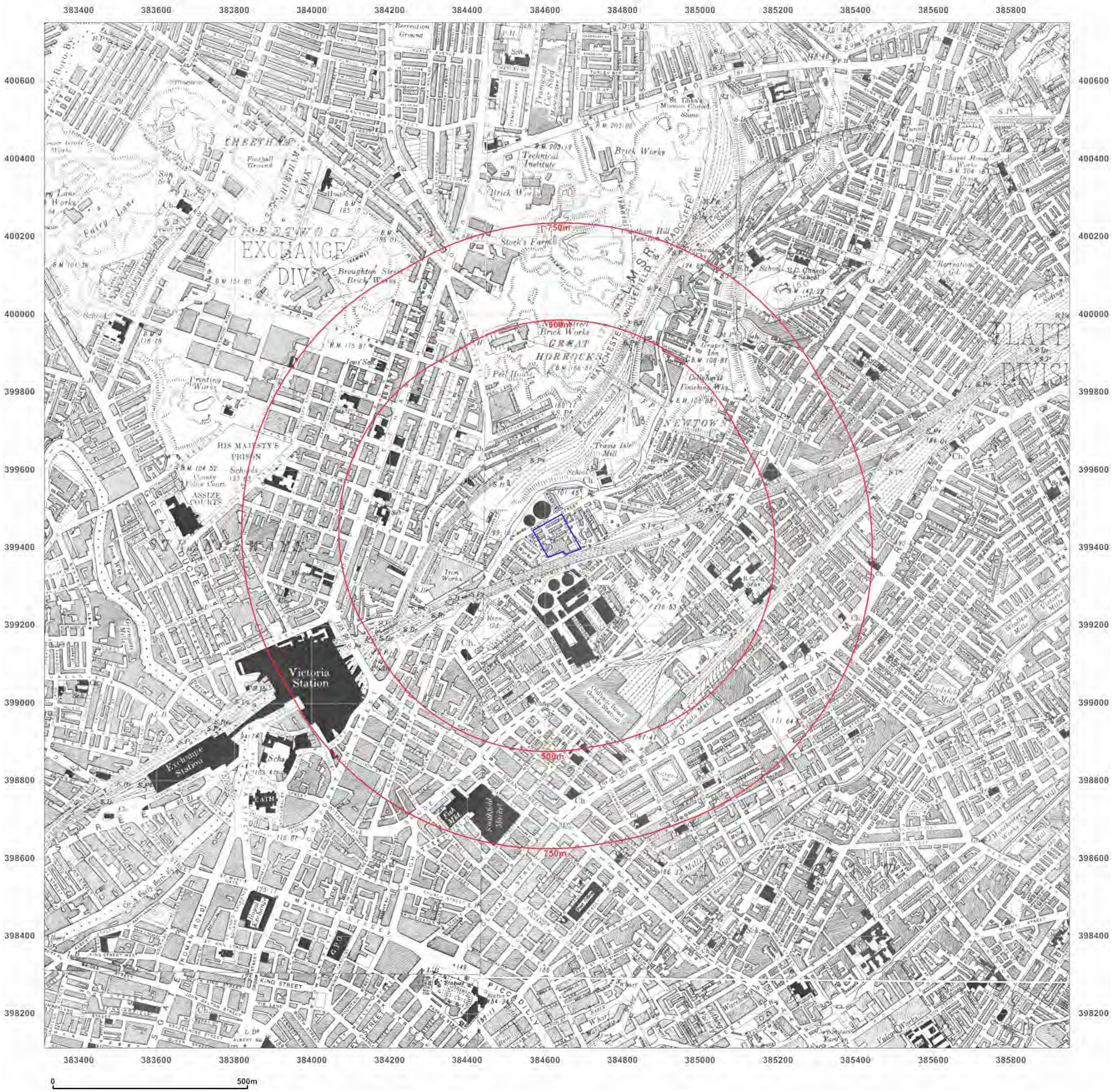
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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: County Series

Map date: **1931-1934**

Scale: 1:10,560

Printed at: 1:10,560

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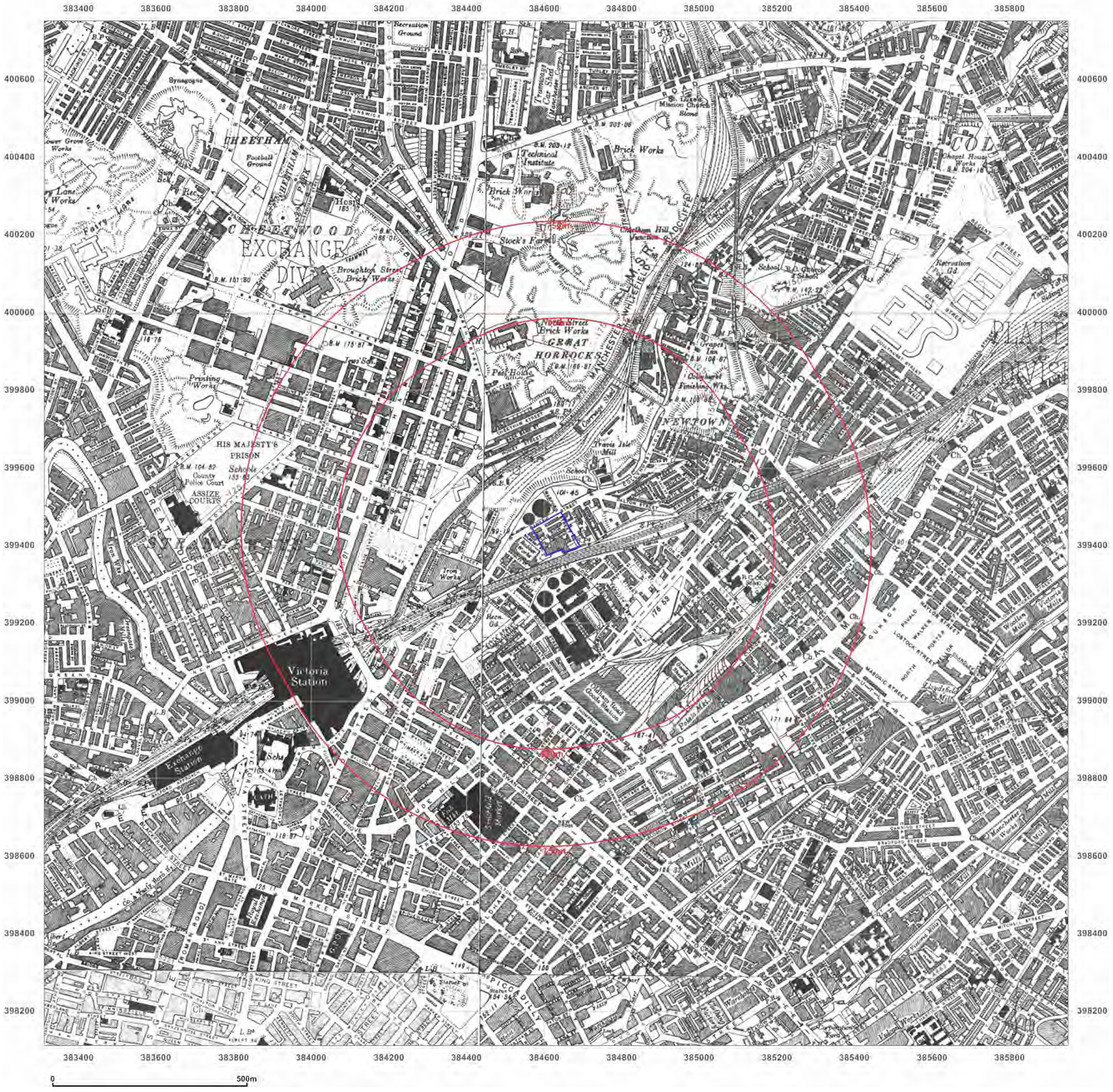
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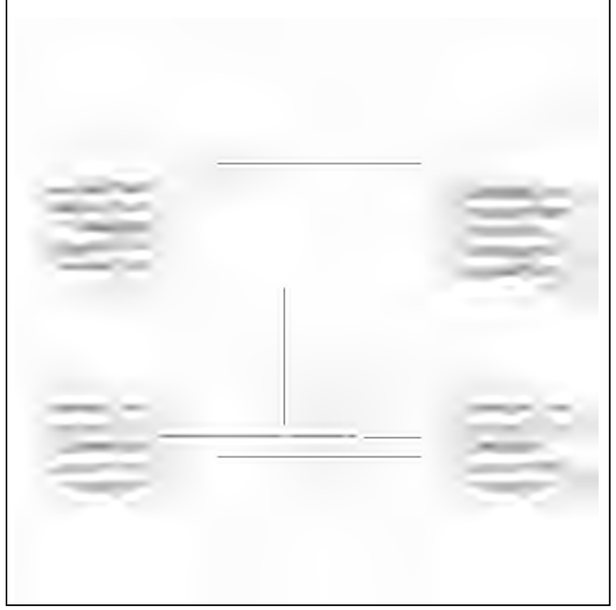
Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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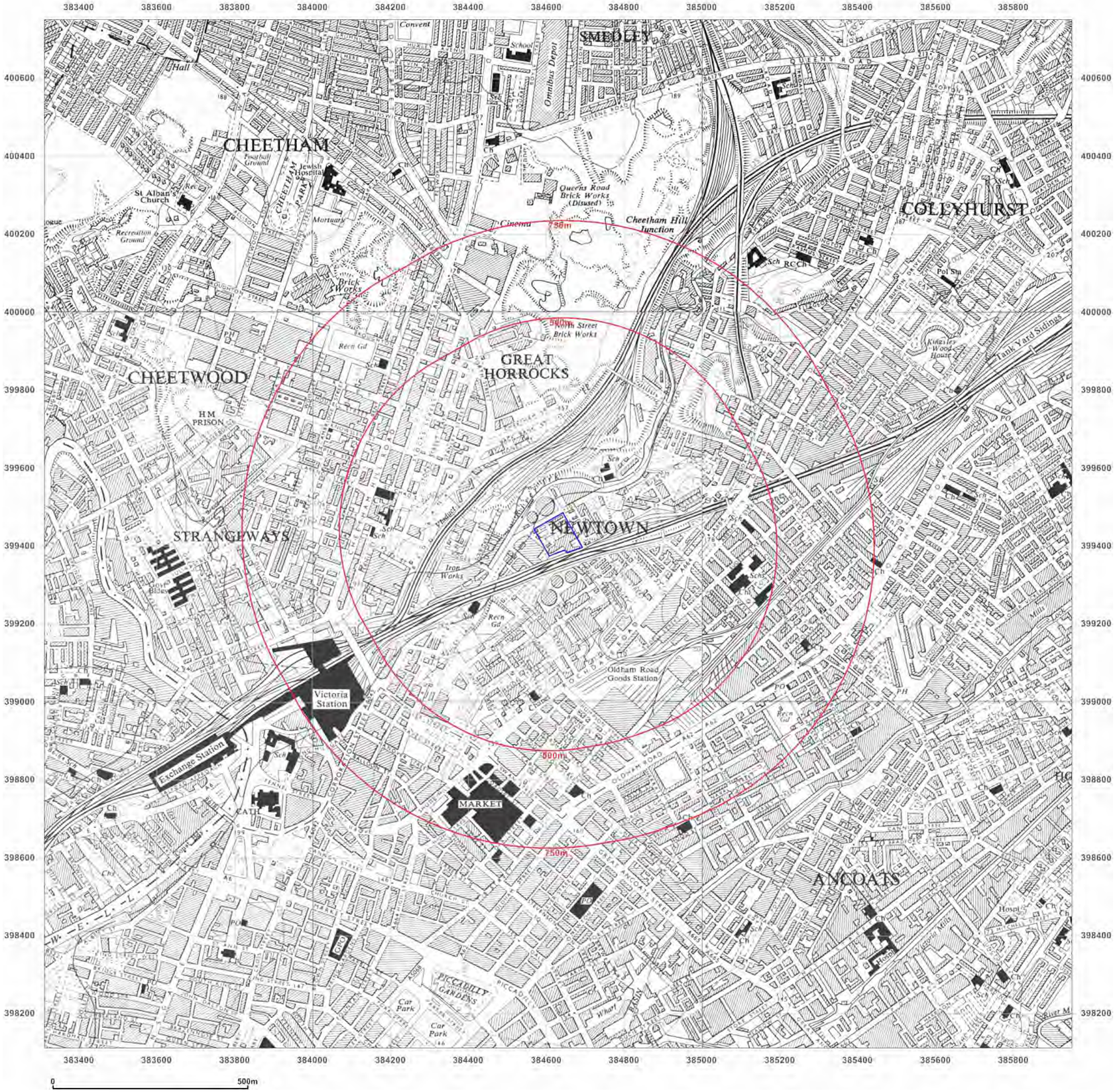
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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: Provisional

Map date: **1956**

Scale: 1:10,560

Printed at: 1:10,560

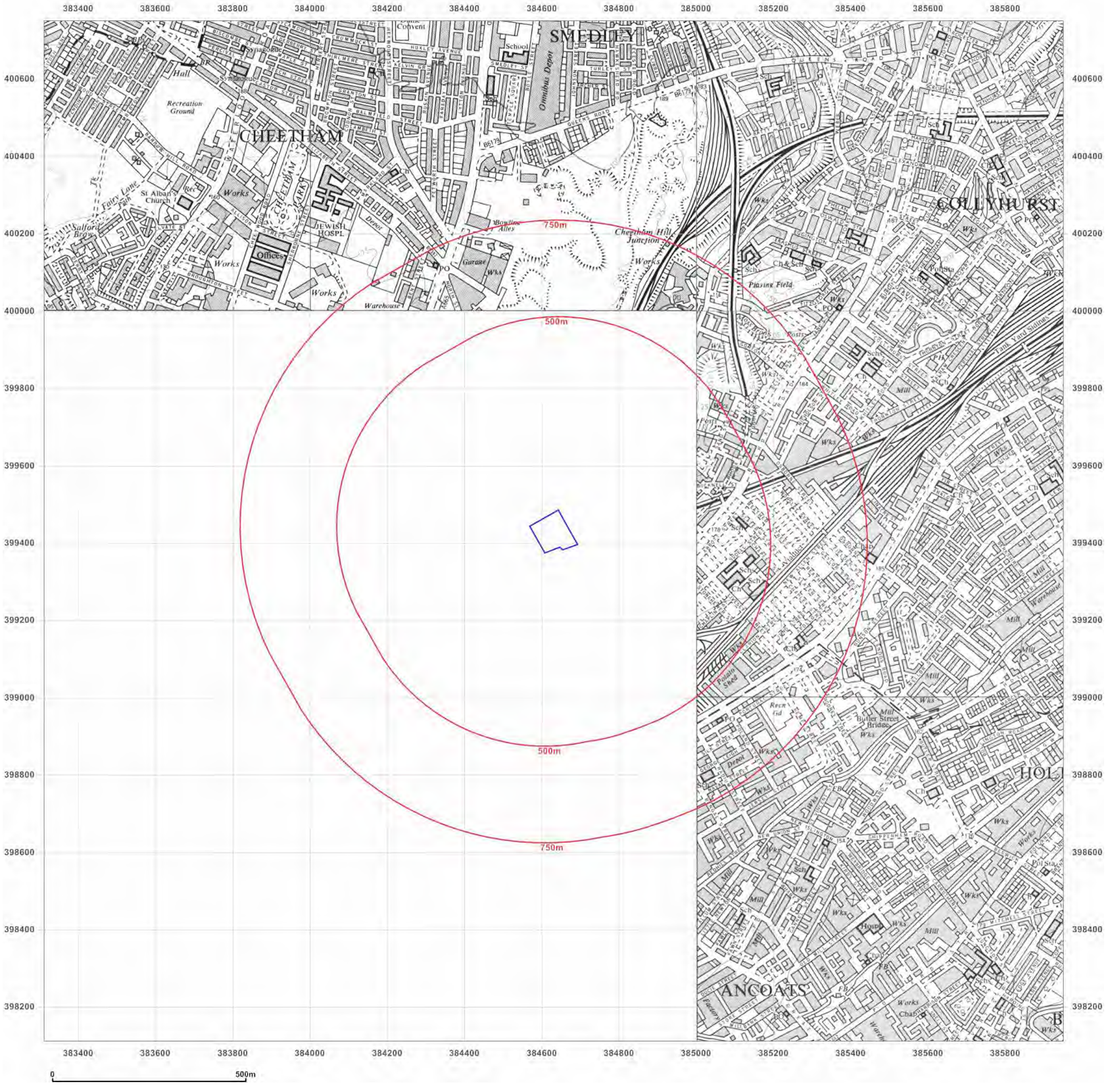
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Grid Ref: 384630, 399431

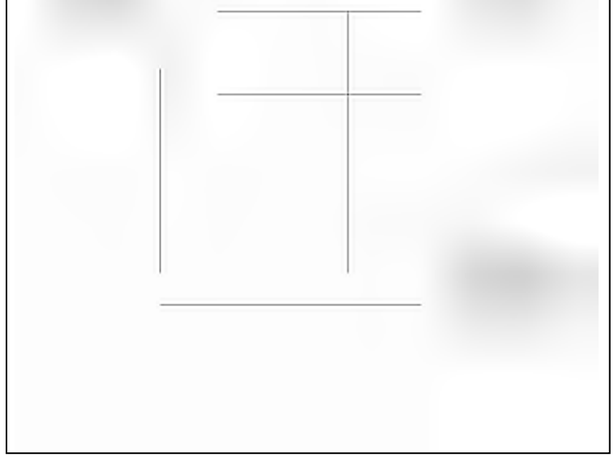
Map Name: Provisional

Map date: **1966-1968**

Scale: 1:10,560

Printed at: 1:10,560

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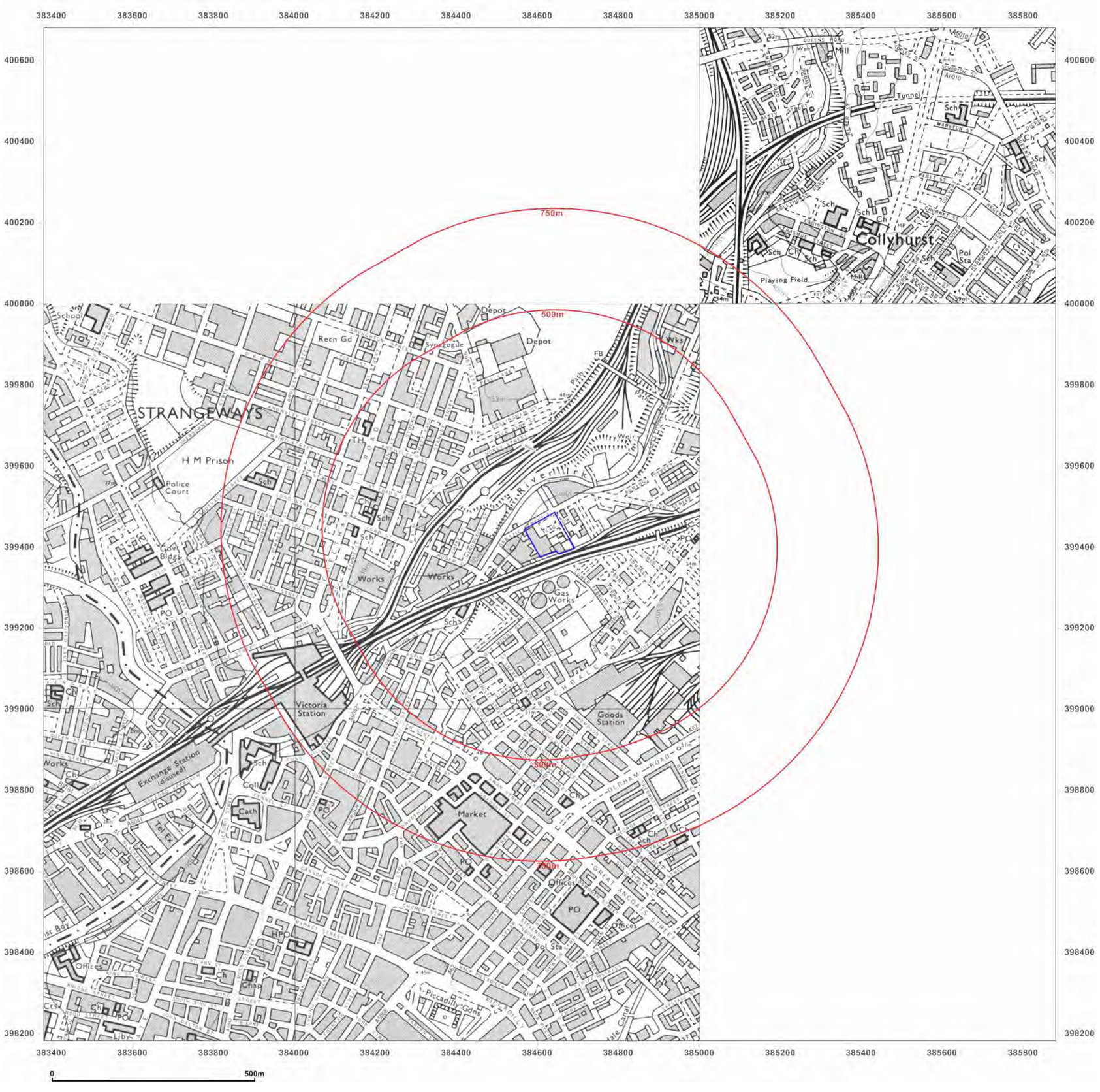
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Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1971-1975**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1975
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1971
Revised 1971
Edition N/A
Copyright N/A
Levelled N/A

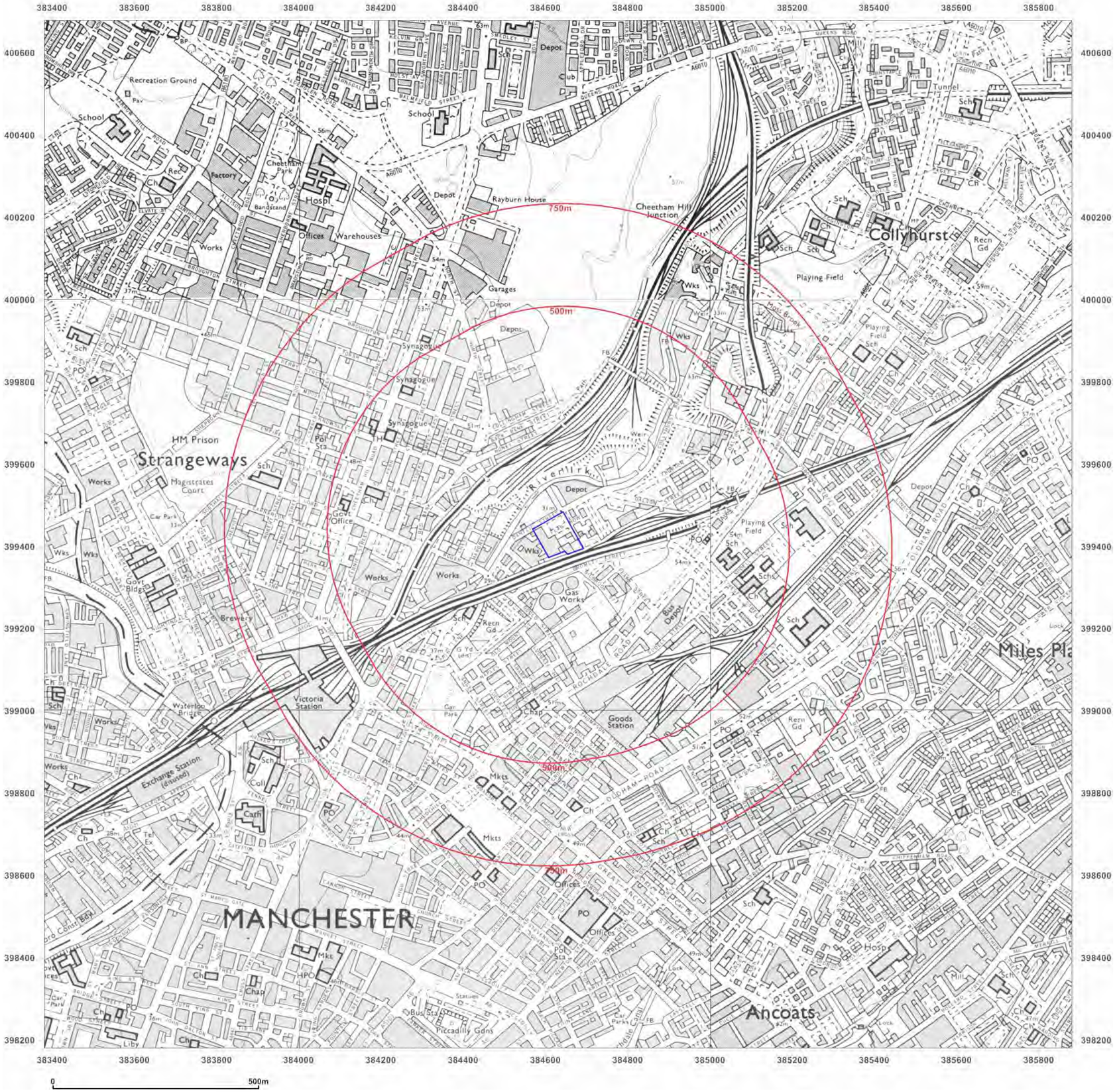
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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1977-1980**

Scale: 1:10,000

Printed at: 1:10,000

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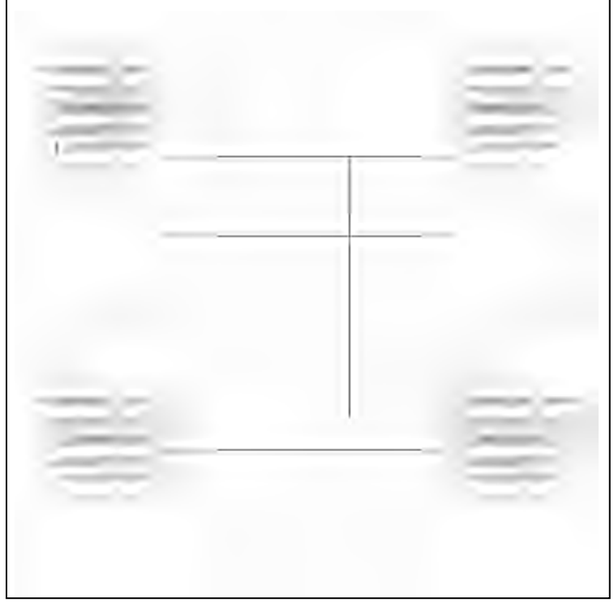
Map Name: National Grid

Map date: **1985-1988**

Scale: 1:10,000

Printed at: 1:10,000

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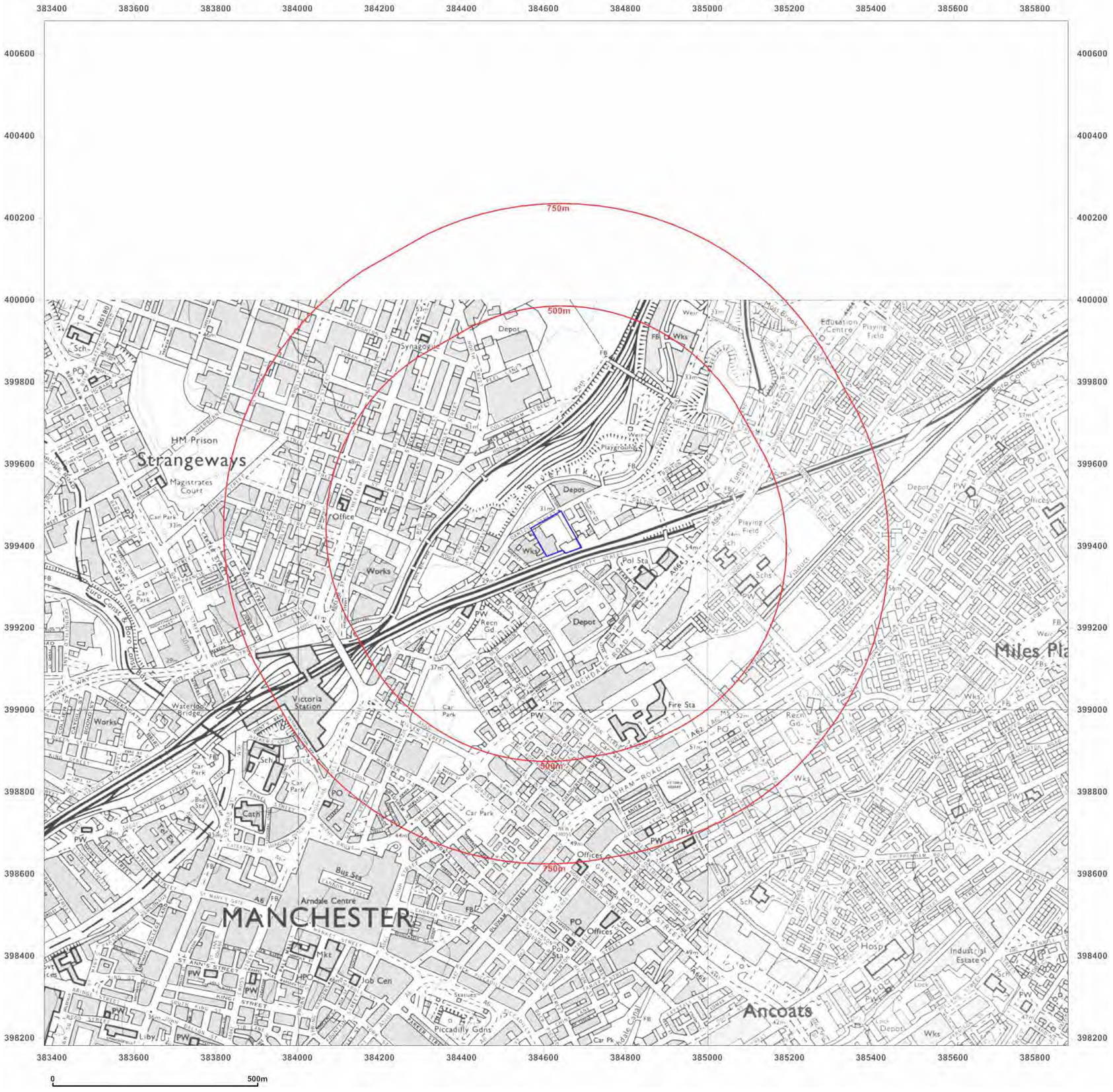
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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **1988-1991**

Scale: 1:10,000

Printed at: 1:10,000

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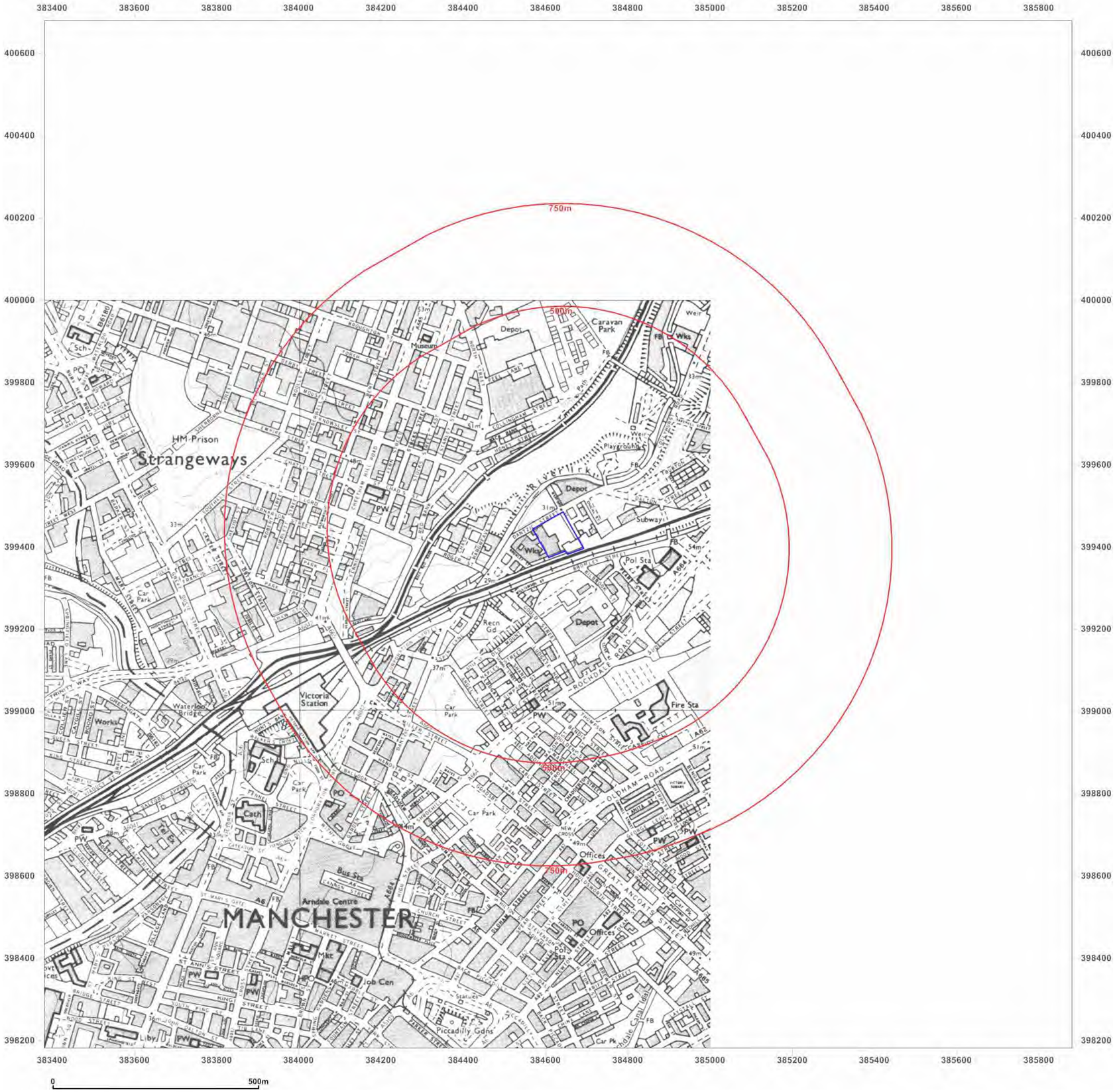
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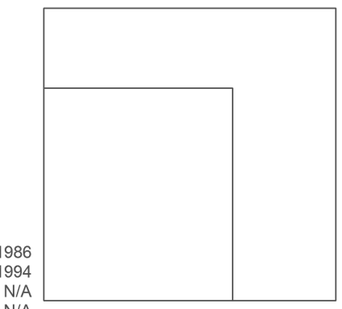
Map Name: National Grid

Map date: **1994**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1986
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: 1:10,000 Raster

Map date: **2002**

Scale: 1:10,000

Printed at: 1:10,000

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2002

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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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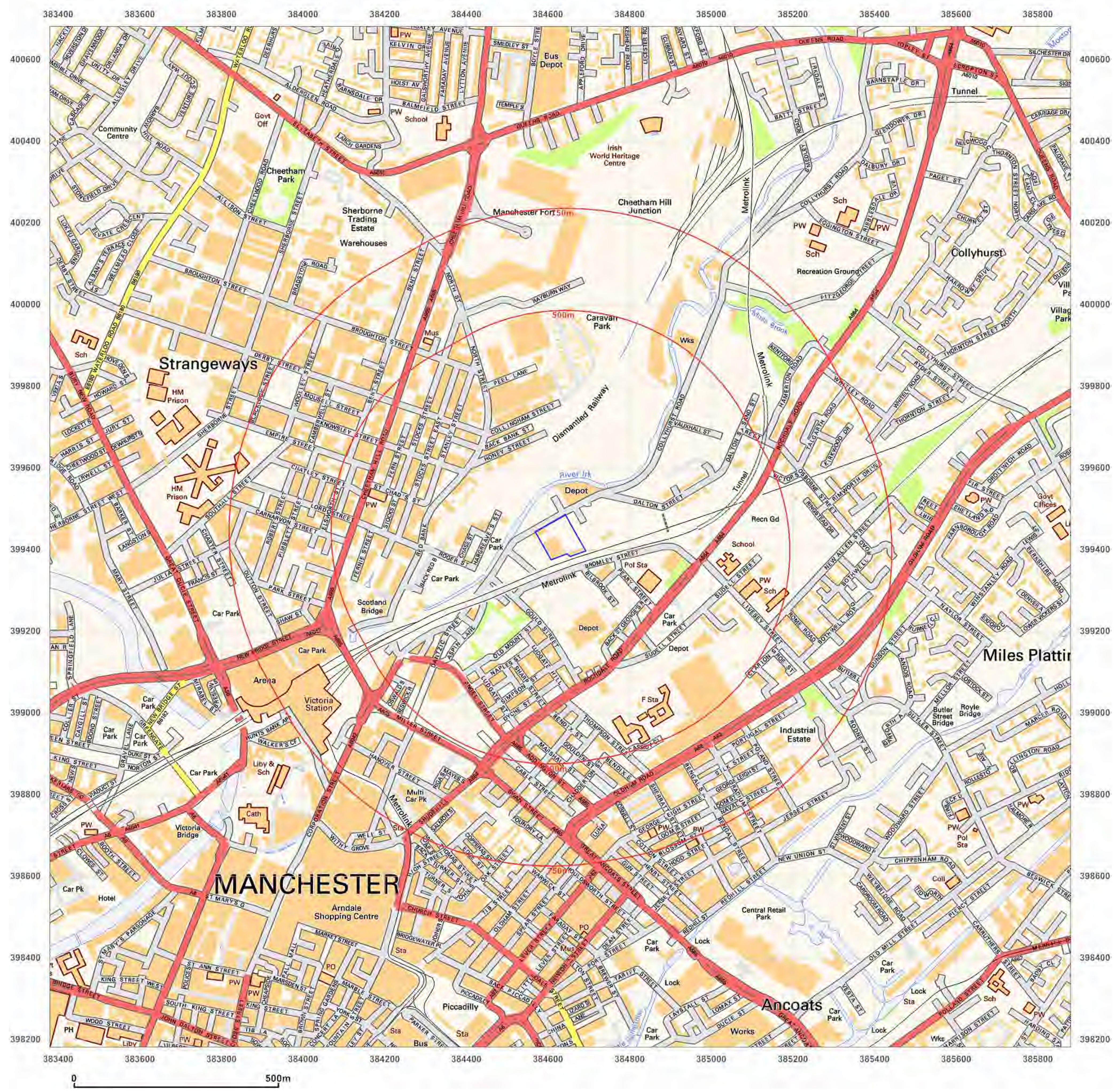
2010

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Client Ref: C151819-S15438
Report Ref: HYD-2605571
Grid Ref: 384630, 399431

Map Name: National Grid

Map date: **2014**

Scale: 1:10,000

Printed at: 1:10,000

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Appendix D

Desk Study Research Information

Hydrock Consultants Ltd

4 Lakeside, Festival Way,
Stoke-on-Trent, ST1 5RY

Groundsure Reference:	HYD-2605569
Your Reference:	C151819-S15438
Report Date	24 Nov 2015
Report Delivery Method:	Email - pdf

Groundsure Enviroinsight

Address: DANTZIC STREET, MANCHESTER,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviroinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 01752 347 515 quoting the above report reference number.

Yours faithfully,

Hydrock

Enc.
Groundsure Enviroinsight

Groundsure Enviroinsight

Address:	**DANTZIC STREET, MANCHESTER,**
Date:	**24 Nov 2015**
Reference:	**HYD-2605569**
Client:	**Hydrock Consultants Ltd**

NW N NE



W E

SW S SE

Aerial Photograph Capture date:	02-Jun-2009
Grid Reference:	384628,399426
Site Size:	0.77ha

Report Reference: HYD-2605569
Client Reference: C151819-S15438

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Overview of Findings

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Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	6	46	115	205
1.2 Additional Information – Historical Tank Database	6	44	88	38
1.3 Additional Information – Historical Energy Features Database	0	34	47	32
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	5	25	26
1.6 Potentially Infilled Land	0	1	29	54

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	1	5	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	1
2.1.8 Records of Licensed Discharge Consents	0	0	19	6
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	28	2
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	1	1	2	2
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	1	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	1
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	2	2	8	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	3	5	1	4	1	5

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	3	2	32	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	5
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	Yes
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	30	12
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	12	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	0	Not searched	Not searched

	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology	0-500m					
6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	Yes	Yes	Yes	Yes
6.10 Detailed River Network entries within 500m of the site	0	1	0	4	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding	
7.1 Are there any Enviroment Agency Zone 2 floodplains within 250m of the study site?	Yes
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	Yes
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Low
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	1	2	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?	Very Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Very Low
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

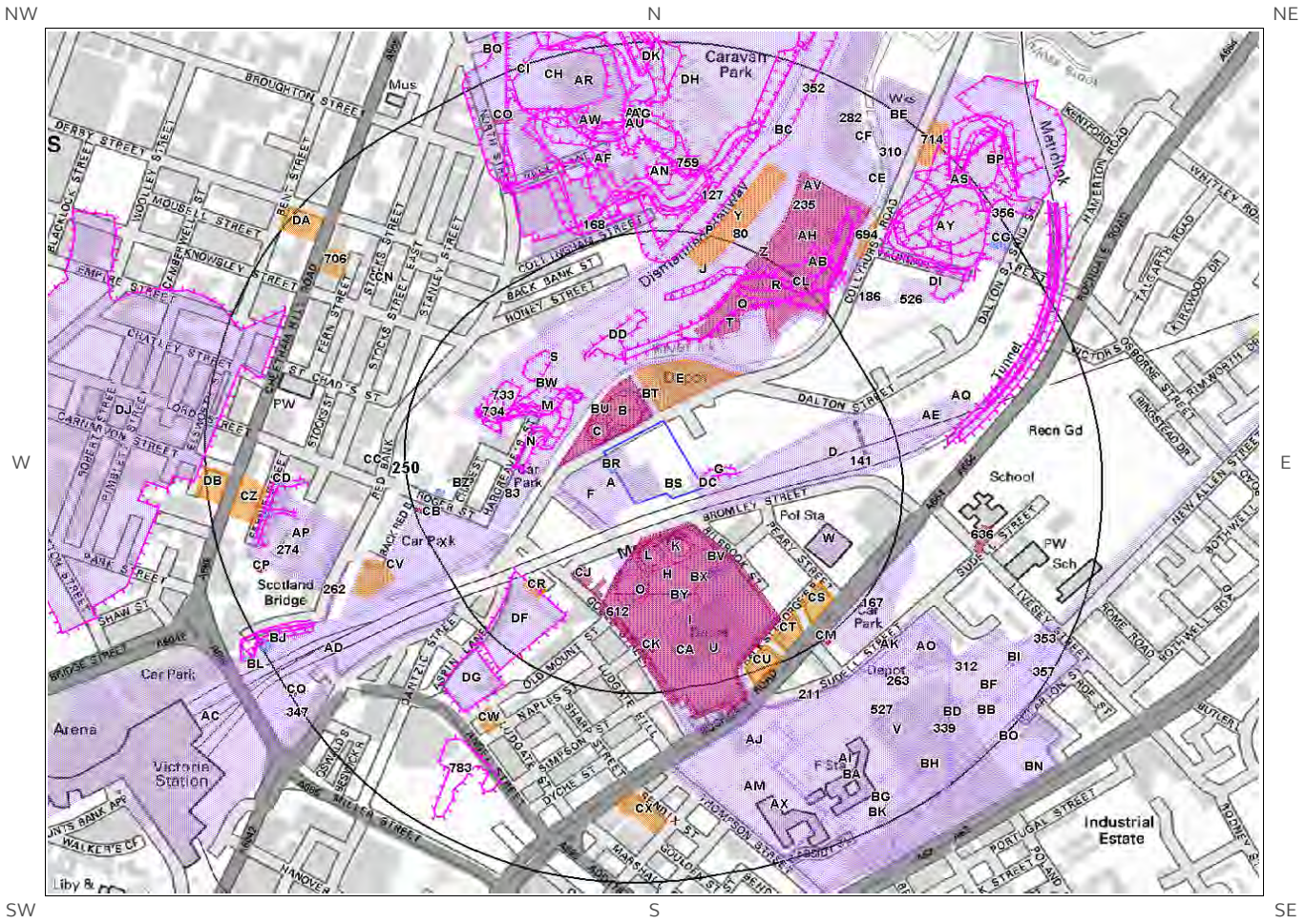
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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Historical 1:10,000 and 1:10,560 scale mapping

Industrial Land Use

Potentially Infilled Land

Site Outline

250
500
Search Buffers (m)

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

Energy Features

Petrol Stations

Tanks

Garages

Report Reference: HYD-2605569
Client Reference: C151819-S15438

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 372

ID	Distance [m]	Direction	Use	Date
1DC	0	On Site	Railway Building	1923
2A	0	On Site	Unspecified Works	1978
3A	0	On Site	Unspecified Works	1985
4A	0	On Site	Unspecified Works	1988
5D	0	On Site	Railway Sidings	1923
6A	0	On Site	Unspecified Works	1994
7G	4	NE	Unspecified Ground Workings	1956
8B	8	NW	Unspecified Tanks	1921
9B	8	NW	Unspecified Tank	1906
10B	8	NW	Unspecified Tanks	1933
11B	8	NW	Unspecified Tank	1938
12B	8	NW	Unspecified Tank	1891
13B	8	NW	Unspecified Tank	1923
14B	8	NW	Unspecified Commercial/Industrial	1923
15C	8	NW	Unspecified Tank	1891
16C	8	NW	Unspecified Tank	1921
17C	8	NW	Unspecified Tank	1933
18C	8	NW	Unspecified Tank	1938
19C	8	NW	Unspecified Tank	1906
20C	8	NW	Unspecified Tank	1923
21D	10	SE	Railway Sidings	1933
22D	10	SE	Railway Sidings	1938
23D	10	SE	Railway Sidings	1906
24D	10	SE	Railway Sidings	1921
25E	11	NW	Unspecified Depot	1978
26E	11	NW	Unspecified Depot	1994
27E	11	NW	Unspecified Depot	1988
28E	11	NW	Unspecified Depot	1985
29BT	12	NW	Unspecified Commercial/Industrial	1956
30B	12	NW	Unspecified Tanks	1956
31F	12	SW	Rubber Works	1933
32F	12	SW	Rubber Works	1938

33D	14	SE	Railway Sidings	1891
34F	15	SW	Rubber Works	1923
35G	17	E	Railway Building	1923
36H	39	S	Unspecified Commercial/Industrial	1956
37H	44	S	Gas Works	1906
38I	44	S	Unspecified Commercial/Industrial	1938
39I	44	S	Unspecified Commercial/Industrial	1933
40I	44	S	Unspecified Commercial/Industrial	1891
41H	44	S	Gas Works	1921
42H	45	S	Gas Works	1923
43D	45	NE	Railway Sidings	1978
44D	45	NE	Railway Sidings	1956
45D	45	NE	Railway Sidings	1971
46D	45	NE	Railway Sidings	1985
47H	48	S	Gas Works	1985
48H	48	S	Gas Works	1971
49H	48	S	Gas Works	1978
50H	48	S	Unspecified Tanks	1956
51J	50	NW	Railway Sidings	1938
52J	50	NW	Railway Sidings	1933
53J	51	NW	Railway Sidings	1921
54J	51	NW	Railway Sidings	1906
55J	51	NW	Railway Sidings	1923
56K	54	S	Gasometer	1906
57K	54	S	Gasometer	1921
58K	54	S	Unspecified Tank	1938
59K	54	S	Unspecified Tank	1891
60K	54	S	Unspecified Tank	1933
61K	54	S	Gasometer	1923
62K	55	S	Unspecified Tanks	1978
63K	55	S	Unspecified Tanks	1971
64M	57	NW	Unspecified Ground Workings	1921
65L	59	S	Gasometer	1921
66L	59	S	Gasometer	1906
67L	59	S	Unspecified Tank	1938
68L	59	S	Unspecified Tank	1891
69L	59	S	Unspecified Tank	1933
70L	59	S	Gasometer	1923
71O	63	S	Gas Works	1851
72M	73	NW	Unspecified Ground Workings	1994
73M	73	NW	Unspecified Ground Workings	1988

74N	75	W	Refuse Heap	1933
75N	75	W	Refuse Heap	1938
76M	76	NW	Unspecified Ground Workings	1956
77O	76	S	Gasometer	1851
78T	78	NE	Unspecified Mill	1938
79BV	80	S	Unspecified Tank	1891
80	83	NW	Railway Sidings	1891
81O	87	S	Gasometer	1978
82O	87	S	Gasometer	1971
83	88	W	Unspecified Commercial/Industrial	1923
84P	90	NW	Railway Sidings	1988
85P	90	NW	Railway Sidings	1971
86P	90	NW	Railway Sidings	1956
87P	90	NW	Railway Sidings	1985
88P	90	NW	Railway Sidings	1978
89Q	92	N	Unspecified Ground Workings	1988
90Q	92	N	Unspecified Ground Workings	1994
91O	92	S	Gasometer	1906
92O	92	S	Unspecified Tank	1933
93O	92	S	Unspecified Tanks	1891
94O	92	S	Unspecified Tanks	1938
95O	92	S	Gasometer	1921
96O	92	S	Gasometer	1923
97DD	96	NW	Unspecified Ground Workings	1891
98I	97	S	Unspecified Depot	1988
99I	97	S	Unspecified Depot	1994
100R	113	N	Unspecified Ground Workings	1971
101R	113	N	Unspecified Ground Workings	1956
102R	113	N	Unspecified Ground Workings	1985
103R	113	N	Unspecified Ground Workings	1978
104S	127	NW	Railway Building	1906
105S	127	NW	Railway Building	1938
106S	127	NW	Railway Building	1923
107T	128	NE	Unspecified Mill	1906
108T	128	NE	Unspecified Mill	1921
109T	128	NE	Unspecified Mill	1933
110T	128	NE	Unspecified Mill	1923
111U	130	SE	Unspecified Commercial/Industrial	1956
112U	134	SE	Unspecified Commercial/Industrial	1921

113U	136	S	Unspecified Commercial/Industrial	1923
114V	140	S	Railway Sidings	1891
115T	140	NE	Unspecified Mill	1891
116V	143	S	Railway Sidings	1938
117V	143	S	Railway Sidings	1933
118V	144	S	Unspecified Commercial/Industrial	1921
119V	144	S	Railway Sidings	1906
120V	144	S	Railway Sidings	1921
121V	144	S	Railway Sidings	1923
122U	146	S	Railway Sidings	1956
123W	151	E	Police Station	1985
124W	151	E	Police Station	1988
125W	151	E	Police Station	1994
126S	151	NW	Railway Building	1923
127	152	NW	Railway Sidings	1994
128Q	153	NE	Corn Mill	1851
129X	157	SW	Unspecified Works	1971
130X	157	SW	Iron Works	1956
131X	157	SW	Unspecified Works	1985
132X	157	SW	Unspecified Works	1978
133DE	158	N	Unspecified Ground Workings	1891
134X	164	SW	Iron Works	1931
135X	164	SW	Iron Works	1938
136X	164	SW	Iron Works	1906
137X	164	SW	Iron Works	1916
138X	164	SW	Iron Works	1923
139DF	166	SW	Grave Yard	1851
140CL	193	NE	Unspecified Ground Workings	1891
141	197	E	Railway Building	1923
142Y	202	N	Carriage Shed	1938
143Y	202	N	Carriage Shed	1906
144Y	202	N	Carriage Shed	1933
145Y	202	N	Carriage Shed	1921
146Y	202	N	Carriage Shed	1923
147AG	209	N	Brick Works	1956
148Y	214	N	Railway Building	1891
149Z	221	NE	Railway Buildings	1921
150Z	221	NE	Railway Buildings	1933
151Z	221	NE	Railway Buildings	1906
152Z	221	NE	Railway Buildings	1938
153Z	221	NE	Railway Buildings	1923
154Z	227	NE	Railway Building	1971
155Z	227	NE	Railway Building	1978

156AA	227	N	Unspecified Ground Workings	1906
157AA	227	N	Unspecified Ground Workings	1933
158AA	227	N	Unspecified Ground Workings	1921
159AA	227	N	Brick Works	1938
160AA	227	N	Brick Works	1933
161AA	227	N	Brick Works	1921
162AA	227	N	Brick Works	1906
163Z	231	NE	Railway Buildings	1956
164Z	231	NE	Railway Buildings	1891
165AB	234	NE	Unspecified Ground Workings	1933
166AB	234	NE	Unspecified Heap	1938
167	244	SE	Bus Depot	1978
168	254	NW	Brewery	1891
169AC	259	SW	Railway Sidings	1971
170AC	259	SW	Railway Sidings	1978
171AC	259	SW	Railway Sidings	1956
172AC	259	SW	Railway Sidings	1988
173AC	259	SW	Railway Sidings	1985
174AC	259	SW	Railway Sidings	1994
175AD	261	SW	Railway Sidings	1923
176AD	263	SW	Railway Sidings	1931
177AD	263	SW	Railway Sidings	1916
178AD	263	SW	Railway Sidings	1906
179AD	263	SW	Railway Sidings	1938
180AE	263	E	Railway Sidings	1994
181AE	263	E	Railway Sidings	1988
182AF	272	N	Clay Pit	1923
183AH	275	NE	Railway Building	1985
184AF	277	N	Unspecified Pit	1933
185DG	277	SW	Disused Grave Yard	1978
186	277	NE	Sawmill	1851
187AG	280	N	Unspecified Ground Workings	1956
188AB	280	NE	Dye Works	1851
189AH	281	NE	Railway Buildings	1938
190AH	281	NE	Railway Buildings	1933
191AH	295	NE	Railway Building	1933
192AH	295	NE	Railway Building	1938
193AH	295	NE	Railway Building	1906
194AH	295	NE	Railway Building	1921
195AH	295	NE	Railway Building	1923
196AI	295	S	Unspecified Depot	1985
197AH	295	NE	Railway Building	1923

198AI	297	S	Railway Sidings	1956
199AJ	298	S	Railway Building	1978
200AJ	298	S	Railway Building	1971
201AJ	298	S	Railway Building	1985
202V	301	S	Railway Sidings	1978
203V	301	S	Railway Sidings	1985
204V	301	S	Railway Sidings	1971
205	301	SE	Railway Sidings	1851
206V	302	S	Unspecified Commercial/Industrial	1906
207AK	304	SE	Railway Building	1956
208AK	304	SE	Railway Buildings	1971
209AK	304	SE	Railway Buildings	1985
210AK	304	SE	Railway Buildings	1978
211	305	S	Railway Building	1938
212AH	307	NE	Unspecified Tanks	1921
213AH	307	NE	Unspecified Tanks	1933
214AH	307	NE	Unspecified Tanks	1938
215AH	307	NE	Unspecified Tanks	1906
216AH	307	NE	Unspecified Tank	1923
217AU	310	N	Railway Sidings	1906
218AN	310	N	Clay Pit	1921
219AL	311	E	Tunnel	1956
220AL	311	E	Tunnel	1968
221AL	311	E	Tunnel	1978
222AE	314	E	Railway Building	1923
223AH	314	NE	Unspecified Tanks	1933
224AH	314	NE	Unspecified Tanks	1921
225AH	314	NE	Unspecified Tanks	1906
226AH	314	NE	Unspecified Tanks	1938
227AH	314	NE	Unspecified Tanks	1923
228AM	316	S	Goods Shed	1923
229AM	316	S	Goods Shed	1921
230AM	318	S	Goods Station	1938
231AM	318	S	Goods Station	1933
232AO	319	SE	Railway Building	1956
233AN	322	N	Unspecified Heap	1956
234BH	323	S	Unspecified Commercial/Industrial	1891
235	324	NE	Railway Building	1923
236AL	327	E	Tunnel	1985
237AL	327	E	Tunnel	1991
238DI	327	NE	Dye Works	1851
239AI	328	S	Railway Building	1851
240DH	332	N	Unspecified Ground Workings	1938
241AO	333	SE	Railway Building	1923

242AP	334	W	Unspecified Works	1985
243AP	334	W	Unspecified Works	1978
244AP	334	W	Unspecified Works	1971
245AP	334	W	Unspecified Works	1988
246AQ	336	E	Unspecified Tank	1956
247AP	340	W	Unspecified Commercial/Industrial	1938
248AQ	341	E	Railway Buildings	1923
249AW	341	N	Railway Sidings	1923
250AO	345	SE	Railway Building	1971
251AO	345	SE	Railway Building	1978
252AR	350	N	Railway Sidings	1938
253AR	350	N	Railway Sidings	1933
254AS	352	NE	Finishing Works	1906
255AS	352	NE	Finishing Works	1933
256AS	352	NE	Finishing Works	1921
257AT	352	NE	Unspecified Ground Workings	1933
258AT	352	NE	Unspecified Ground Workings	1938
259AT	352	NE	Unspecified Ground Workings	1921
260AS	352	NE	Finishing Works	1938
261AO	352	SE	Railway Building	1923
262	352	SW	Railway Building	1894
263	352	SE	Railway Building	1923
264AV	353	NE	Railway Building	1923
265AU	357	N	Unspecified Heap	1956
266AV	359	NE	Railway Building	1923
267AP	360	W	Unspecified Commercial/Industrial	1931
268AW	360	N	Railway Sidings	1921
269AP	363	W	Unspecified Commercial/Industrial	1916
270AX	364	S	Goods Station	1971
271AX	364	S	Goods Station	1956
272AX	364	S	Railway Building	1985
273AX	364	S	Goods Station	1978
274	365	W	Unspecified Commercial/Industrial	1923
275AY	368	NE	Unspecified Heap	1906
276AY	368	NE	Unspecified Heap	1923
277AR	369	N	Unspecified Depot	1971
278AR	369	N	Unspecified Depot	1978
279AR	369	N	Unspecified Depot	1988
280AR	369	N	Unspecified Depot	1985
281AR	369	N	Unspecified Depot	1994

282	372	NE	Unspecified Commercial/Industrial	1923
283AZ	373	E	Tunnel	1938
284AZ	373	E	Tunnel	1933
285AZ	373	E	Tunnel	1921
286AZ	373	E	Tunnel	1906
287AZ	373	E	Tunnel	1923
288V	373	SE	Railway Building	1956
289V	373	SE	Railway Building	1971
290V	373	SE	Railway Building	1985
291V	373	SE	Railway Building	1978
292V	374	SE	Goods Shed	1921
293BP	374	NE	Unspecified Ground Workings	1891
294V	375	SE	Goods Shed	1938
295V	375	SE	Goods Station	1906
296V	375	SE	Goods Shed	1933
297V	375	SE	Goods Shed	1923
298CY	377	W	Unspecified Ground Workings	1851
299BA	378	SE	Fire Station	1994
300BA	378	SE	Fire Station	1988
301AT	379	NE	Unspecified Ground Workings	1956
302AT	379	NE	Unspecified Ground Workings	1978
303AT	379	NE	Unspecified Ground Workings	1971
304AT	379	NE	Unspecified Ground Workings	1985
305AT	379	NE	Unspecified Ground Workings	1994
306AT	379	NE	Unspecified Ground Workings	1988
307BF	382	SE	Railway Sidings	1978
308BB	382	SE	Railway Sidings	1956
309BB	382	SE	Railway Sidings	1968
310	395	NE	Finishing Works	1923
311BC	401	N	Railway Building	1923
312	401	SE	Railway Building	1956
313BC	407	N	Railway Building	1921
314BC	407	N	Railway Building	1906
315BD	412	SE	Railway Buildings	1891
316BD	415	SE	Railway Building	1938
317BD	415	SE	Railway Building	1933
318BD	415	SE	Good Station	1921
319BD	417	SE	Goods Station	1923
320BD	417	SE	Railway Building	1968
321BD	417	SE	Railway Building	1956

322BL	425	SW	Railway Sidings	1894
323AR	427	N	Brick Works	1923
324BD	427	SE	Railway Building	1923
325BD	428	SE	Railway Building	1938
326BG	432	SE	Railway Station	1851
327BE	435	NE	Unspecified Works	1988
328BE	435	NE	Unspecified Works	1971
329BE	435	NE	Unspecified Works	1985
330BE	435	NE	Unspecified Works	1978
331CH	436	N	Railway Sidings	1956
332BF	437	SE	Railway Building	1938
333BG	437	SE	Railway Building	1956
334BG	437	SE	Railway Building	1978
335BG	437	SE	Railway Building	1971
336BH	437	SE	Railway Building	1985
337BF	437	SE	Railway Building	1923
338DJ	439	W	Brick Field	1851
339	440	SE	Railway Building	1923
340BN	441	SE	Unspecified Commercial/Industrial	1923
341BI	445	SE	Railway Building	1956
342BK	445	SE	Railway Building	1938
343BF	446	SE	Railway Building	1891
344BI	446	SE	Railway Building	1923
345BI	446	SE	Railway Building	1938
346BI	453	SE	Railway Building	1891
347	455	SW	Unspecified Commercial/Industrial	1923
348BJ	456	SW	Railway Building	1985
349BJ	460	SW	Railway Building	1971
350BO	464	SE	Unspecified Commercial/Industrial	1956
351BK	468	SE	Railway Building	1985
352	468	NE	Railway Building	1923
353	469	SE	Railway Building	1956
354BJ	471	SW	Railway Building	1931
355BJ	471	SW	Railway Building	1916
356	471	NE	Unspecified Works	1968
357	474	SE	Unspecified Works	1968
358BJ	476	SW	Railway Building	1931
359BL	476	SW	Railway Building	1923
360BE	481	NE	Unspecified Works	1994
361BM	481	NE	Unspecified Heap	1956
362BM	481	NE	Unspecified Heap	1968
363BM	481	NE	Unspecified Heap	1978
364BJ	483	SW	Railway Building	1923
365BN	485	SE	Police Station	1851

366BO	491	SE	Potato Shed	1968
367BM	492	NE	Unspecified Heap	1985
368BM	492	NE	Unspecified Heap	1991
369BP	494	NE	Unspecified Heap	1906
370BP	494	NE	Unspecified Heap	1923
371BQ	495	NW	Unspecified Depot	1971
372BQ	495	NW	Unspecified Depot	1978

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 176

ID	Distance (m)	Direction	Use	Date
373BS	0	On Site	Unspecified Tank	1958
374BR	0	On Site	Tanks	1952
375BR	0	On Site	Tanks	1949
376BS	0	On Site	Unspecified Tank	1958
377BR	0	On Site	Tanks	1949
378BR	0	On Site	Tanks	1952
379B	9	NW	Tanks	1931
380B	9	NW	Gasometers	1922
381B	9	NW	Gasometers	1908
382B	10	NW	Gasometer	1891
383C	11	NW	Gasometer	1891
384C	11	NW	Gas Works	1949
385C	11	NW	Gas Works	1952
386B	11	NW	Gas Works	1952
387B	11	NW	Gas Works	1949
388B	12	NW	Gasometer	1893
389C	12	NW	Gasometer	1893
390B	13	NW	Gasometer	1952
391B	13	NW	Unspecified Tank	1964
392B	13	NW	Gasometer	1949
393B	14	NW	Tanks	1958
394B	14	NW	Gasometer	1949
395B	14	NW	Gasometer	1952
396B	14	NW	Unspecified Tank	1958
397C	14	NW	Gasometer	1949
398C	14	NW	Gasometer	1952
399C	14	NW	Unspecified Tank	1958
400C	15	NW	Gasometer	1952

401C	15	NW	Gasometer	1949
402C	15	NW	Unspecified Tank	1964
403C	17	NW	Unspecified Tank	1891
404B	21	NW	Unspecified Tank	1958
405BT	21	NW	Gas Works	1952
406B	21	NW	Unspecified Tank	1964
407BT	24	NW	Unspecified Tank	1958
408BT	25	NW	Gasometer	1952
409I	37	S	Gas Works	1952
410I	37	S	Gas Works	1949
411I	37	S	Gas Works	1949
412I	37	S	Gas Works	1952
413H	38	S	Gas Works	1970
414BU	46	NW	Unspecified Tank	1891
415K	47	S	Gasometer	1949
416K	47	S	Gasometer	1952
417K	47	S	Unspecified Tank	1958
418K	47	S	Unspecified Tank	1964
419K	47	S	Gasometer	1952
420K	47	S	Gasometer	1949
421K	47	S	Unspecified Tank	1958
422K	47	S	Gasometer	1970
423BU	51	NW	Unspecified Tank	1958
424BU	51	NW	Unspecified Tank	1964
425K	53	S	Gasometers	1922
426K	53	S	Tanks	1931
427K	53	S	Gasometers	1908
428K	53	S	Gasometers	1893
429K	54	S	Gasometer	1891
430L	54	S	Gasometer	1952
431L	54	S	Gasometer	1949
432L	54	S	Unspecified Tank	1958
433L	54	S	Unspecified Tank	1964
434L	54	S	Gasometer	1952
435L	54	S	Gasometer	1949
436L	54	S	Gasometer	1970
437L	54	S	Unspecified Tank	1958
438L	61	S	Gasometer	1891
439BV	78	S	Gasometer	1891
440O	86	S	Unspecified Tank	1958
441O	86	S	Gasometer	1952
442O	86	S	Gasometer	1970
443O	86	S	Gasometer	1949
444O	86	S	Gasometer	1949
445O	86	S	Unspecified Tank	1964
446O	86	S	Gasometer	1952

447O	86	S	Unspecified Tank	1958
448L	87	S	Unspecified Tank	1964
449L	87	S	Unspecified Tank	1958
450L	88	S	Unspecified Tank	1958
451O	93	S	Gasometer	1891
452H	93	S	Unspecified Tank	1931
453H	94	S	Unspecified Tank	1891
454O	94	S	Gasometer	1893
455O	94	S	Gasometer	1908
456O	94	S	Unspecified Tank	1931
457O	94	S	Gasometer	1922
458H	94	S	Unspecified Tank	1908
459M	96	NW	Unspecified Tank	1891
460BV	102	S	Tanks	1949
461BV	102	S	Tanks	1952
462BV	102	S	Tanks	1949
463BV	102	S	Tanks	1952
464M	103	NW	Unspecified Tank	1891
465BV	106	S	Tanks	1893
466BV	107	S	Tanks	1891
467BW	110	NW	Tanks	1891
468BV	110	S	Unspecified Tank	1958
469BV	110	S	Unspecified Tank	1964
470BX	110	S	Tanks	1952
471BW	110	NW	Unspecified Tank	1891
472BX	111	S	Unspecified Tank	1958
473BX	111	S	Tanks	1952
474BX	111	S	Tanks	1949
475BV	112	S	Unspecified Tank	1891
476BW	114	NW	Unspecified Tank	1891
477BX	118	S	Unspecified Tank	1891
478O	118	S	Gasometer	1891
479BX	118	S	Unspecified Tank	1891
480AB	121	NE	Gas Works	1952
481AB	121	NE	Gas Works	1949
482BX	123	S	Unspecified Tank	1891
483O	125	S	Unspecified Tank	1931
484BY	126	S	Tanks	1893
485BX	126	S	Unspecified Tank	1891
486BY	127	S	Unspecified Tank	1964
487O	127	S	Unspecified Tank	1958
488BY	128	S	Tanks	1891
489O	128	S	Unspecified Tank	1958
490BY	129	S	Unspecified Tank	1891
491BZ	182	W	Tanks	1952
492BZ	183	W	Tanks	1952

493BZ	193	W	Tanks	1990
494AH	200	NE	Gas Works	1952
495CA	202	S	Tanks	1952
496CA	202	S	Tanks	1949
497BZ	206	W	Tanks	1990
498BZ	207	W	Tanks	1963
499BZ	207	W	Tanks	1964
500CA	209	S	Tanks	1949
501CA	209	S	Tanks	1952
502CA	209	S	Tanks	1952
503CA	209	S	Tanks	1949
504CA	216	S	Tanks	1952
505CA	216	S	Tanks	1949
506CA	220	S	Tanks	1949
507CA	221	S	Tanks	1952
508CB	230	W	Unspecified Tank	1958
509CB	234	W	Unspecified Tank	1922
510CB	234	W	Unspecified Tank	1908
511CC	290	W	Unspecified Tank	1964
512CC	290	W	Unspecified Tank	1963
513CC	298	W	Unspecified Tank	1952
514CC	299	W	Unspecified Tank	1952
515CV	303	SW	Unspecified Tank	1891
516AH	311	NE	Gasometers	1908
517AH	311	NE	Gasometers	1922
518AH	311	NE	Tanks	1931
519AH	318	NE	Gasometer	1952
520AH	318	NE	Gasometers	1949
521AH	318	NE	Tanks	1958
522AH	318	NE	Tanks	1964
523AH	318	NE	Gasometers	1952
524AH	318	NE	Tanks	1958
525AH	324	NE	Gasometer	1952
526	343	NE	Tanks	1891
527	372	SE	Unspecified Tank	1891
528CD	403	W	Unspecified Tank	1952
529CD	403	W	Unspecified Tank	1958
530CD	403	W	Unspecified Tank	1952
531CE	408	NE	Unspecified Tank	1952
532CE	409	NE	Unspecified Tank	1952
533BD	432	SE	Unspecified Tank	1908
534BB	441	SE	Unspecified Tank	1891
535CF	445	NE	Unspecified Tank	1952
536CF	445	NE	Unspecified Tank	1952
537BI	449	SE	Unspecified Tank	1891
538AR	453	N	Unspecified Tank	1952

539AR	453	N	Unspecified Tank	1952
540CG	470	NE	Unspecified Tank	1952
541CG	470	NE	Unspecified Tank	1949
542CG	470	NE	Unspecified Tank	1949
543CG	470	NE	Unspecified Tank	1952
544BJ	487	SW	Unspecified Tank	1949
545CH	489	N	Unspecified Tank	1993
546CI	489	N	Unspecified Tank	1993
547CI	489	N	Unspecified Tank	1992
548CI	489	N	Unspecified Tank	1989

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 113

ID	Distance (m)	Direction	Use	Date
549BU	9	NW	Gasometers	1908
550BU	9	NW	Gasometers	1922
551BU	10	NW	Gasometer	1891
552C	11	NW	Gasometer	1891
553C	11	NW	Gas Works	1949
554C	11	NW	Gas Works	1952
555BU	11	NW	Gas Works	1952
556BU	11	NW	Gas Works	1949
557BU	12	NW	Gasometer	1893
558C	12	NW	Gasometer	1893
559BT	13	NW	Gasometer	1949
560BT	13	NW	Gasometer	1952
561BU	14	NW	Gasometer	1952
562BU	14	NW	Gasometer	1949
563C	14	NW	Gasometer	1949
564C	14	NW	Gasometer	1952
565C	15	NW	Gasometer	1949
566C	15	NW	Gasometer	1952
567BT	21	NW	Gas Works	1952
568BT	25	NW	Gasometer	1952
569I	37	S	Gas Works	1949
570I	37	S	Gas Works	1952
571I	37	S	Gas Works	1949
572I	37	S	Gas Works	1952
573H	38	S	Gas Works	1970

574I	42	S	Gas Work	1908
575I	42	S	Gas Work	1893
576I	42	S	Gas Work	1922
577BX	43	S	Corporation Gas Works	1891
578K	47	S	Gasometer	1952
579K	47	S	Gasometer	1949
580K	47	S	Gasometer	1970
581K	47	S	Gasometer	1949
582K	47	S	Gasometer	1952
583K	53	S	Gasometers	1922
584K	53	S	Gasometers	1908
585K	53	S	Gasometers	1893
586K	54	S	Gasometer	1891
587L	54	S	Gasometer	1952
588L	54	S	Gasometer	1949
589L	54	S	Gasometer	1949
590L	54	S	Gasometer	1970
591L	54	S	Gasometer	1952
592L	61	S	Gasometer	1891
593BV	78	S	Gasometer	1891
594O	86	S	Gasometer	1970
595O	86	S	Gasometer	1949
596O	86	S	Gasometer	1952
597O	86	S	Gasometer	1949
598O	86	S	Gasometer	1952
599O	93	S	Gasometer	1891
600O	94	S	Gasometer	1908
601O	94	S	Gasometer	1922
602O	94	S	Gasometer	1893
603CJ	104	SW	Electricity Substation	1984
604CJ	105	SW	Electricity Substation	1994
605CJ	105	SW	Electricity Substation	1993
606CJ	106	SW	Electricity Substation	1970
607CJ	106	SW	Electricity Substation	1989
608U	118	S	Corporation Gas Works	1891
609O	118	S	Gasometer	1891
610AB	121	NE	Gas Works	1952
611AB	121	NE	Gas Works	1949
612	145	S	Electricity Substation	1970
613CK	186	S	Electricity Substation	1993
614CK	186	S	Electricity Substation	1994
615CK	187	S	Electricity Substation	1984
616CK	187	S	Electricity Substation	1989
617AH	200	NE	Gas Works	1952
618R	229	NE	Electricity Substation	1993
619CL	231	NE	Electricity Substation	1990

620CB	235	W	Electricity Substation	1949
621CB	235	W	Electricity Substation	1952
622CB	236	W	Electricity Substation	1949
623CB	241	W	Electricity Substation	1952
624CM	247	SE	Electricity Substation	1993
625CM	247	SE	Electricity Substation	1994
626CM	247	SE	Electricity Substation	1984
627CM	248	SE	Electricity Substation	1952
628CM	248	SE	Electricity Substation	1952
629CM	248	SE	Electricity Substation	1989
630AH	311	NE	Gasometers	1908
631AH	311	NE	Gasometers	1922
632AH	318	NE	Gasometer	1952
633AH	318	NE	Gasometers	1949
634AH	318	NE	Gasometers	1952
635AH	324	NE	Gasometer	1952
636	348	E	Electricity Substation	1996
637CN	353	NW	Electricity Substation	1993
638CN	353	NW	Electricity Substation	1992
639CN	353	NW	Electricity Substation	1993
640CN	355	NW	Electricity Substation	1968
641CN	355	NW	Electricity Substation	1989
642CO	439	NW	Electricity Substation	1993
643CO	439	NW	Electricity Substation	1992
644CO	439	NW	Electricity Substation	1993
645CO	440	NW	Electricity Substation	1949
646CO	440	NW	Electricity Substation	1952
647CO	440	NW	Electricity Substation	1949
648CO	440	NW	Electricity Substation	1968
649CO	440	NW	Electricity Substation	1952
650CO	440	NW	Electricity Substation	1989
651CO	440	NW	Electricity Substation	1958
652CP	451	W	Electricity Substation	1990
653CP	454	W	Electricity Substation	1952
654CP	454	W	Electricity Substation	1949
655CP	455	W	Electricity Substation	1990
656CP	455	W	Electricity Substation	1949
657CP	455	W	Electricity Substation	1952
658CP	455	W	Electricity Substation	1995
659CQ	489	SW	Electricity Substation	1990
660CQ	490	SW	Electricity Substation	1990
661CQ	491	SW	Electricity Substation	1995

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 56

ID	Distance (m)	Direction	Use	Date
662E	12	N	Garage	1964
663E	12	N	Garage	1952
664E	12	N	Garage	1958
665E	14	N	Garage	1952
666E	14	N	Garage	1958
667CR	155	SW	Garage	1995
668CR	156	SW	Garage	1990
669CR	157	SW	Garage	1990
670CS	191	SE	Garage	1994
671CS	191	SE	Garage	1993
672CS	192	SE	Garage	1964
673CS	192	SE	Garage	1958
674CS	192	SE	Garage	1984
675CS	193	SE	Garage	1970
676CS	193	SE	Garage	1989
677CS	193	SE	Garage	1958
678CT	197	SE	Garage	1993
679CT	197	SE	Garage	1994
680CT	199	SE	Garage	1989
681Y	204	N	Carriage Shed	1922
682Y	204	N	Carriage Shed	1908
683Y	204	N	Carriage Shed	1931
684Y	204	N	Carriage Shed	1893
685Y	205	N	Carriage Shed	1891
686Y	210	N	Carriage Shed	1949
687CU	221	S	Garage	1989
688CU	222	S	Garage	1984

689CU	223	S	Garage	1994
690CU	223	S	Garage	1993
691CU	226	S	Garage	1970
692CV	306	SW	Garage	1990
693CV	307	SW	Garage	1990
694	324	NE	Motor Engineering Works	1970
695CW	324	SW	Garage	1958
696CW	324	SW	Garage	1952
697CW	324	SW	Garage	1952
698CX	380	S	Garage	1995
699CX	380	S	Garage	1953
700CX	380	S	Garage	1965
701CX	380	S	Garage	1967
702CX	381	S	Garage	1988
703CX	381	S	Garage	1953
704CX	381	S	Garage	1963
705CX	382	S	Garage	1984
706	400	NW	Carriage Works	1908
707CY	424	W	Garage	1990
708CZ	425	W	Garage	1995
709CZ	436	W	Garage	1990
710DA	458	NW	Garage	1993
711DA	458	NW	Garage	1992
712DA	458	NW	Garage	1993
713DA	460	NW	Garage	1989
714	464	NE	Garage	1970
715DB	471	W	Garage	1990
716DB	471	W	Garage	1995
717DB	471	W	Garage	1990

1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 84

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

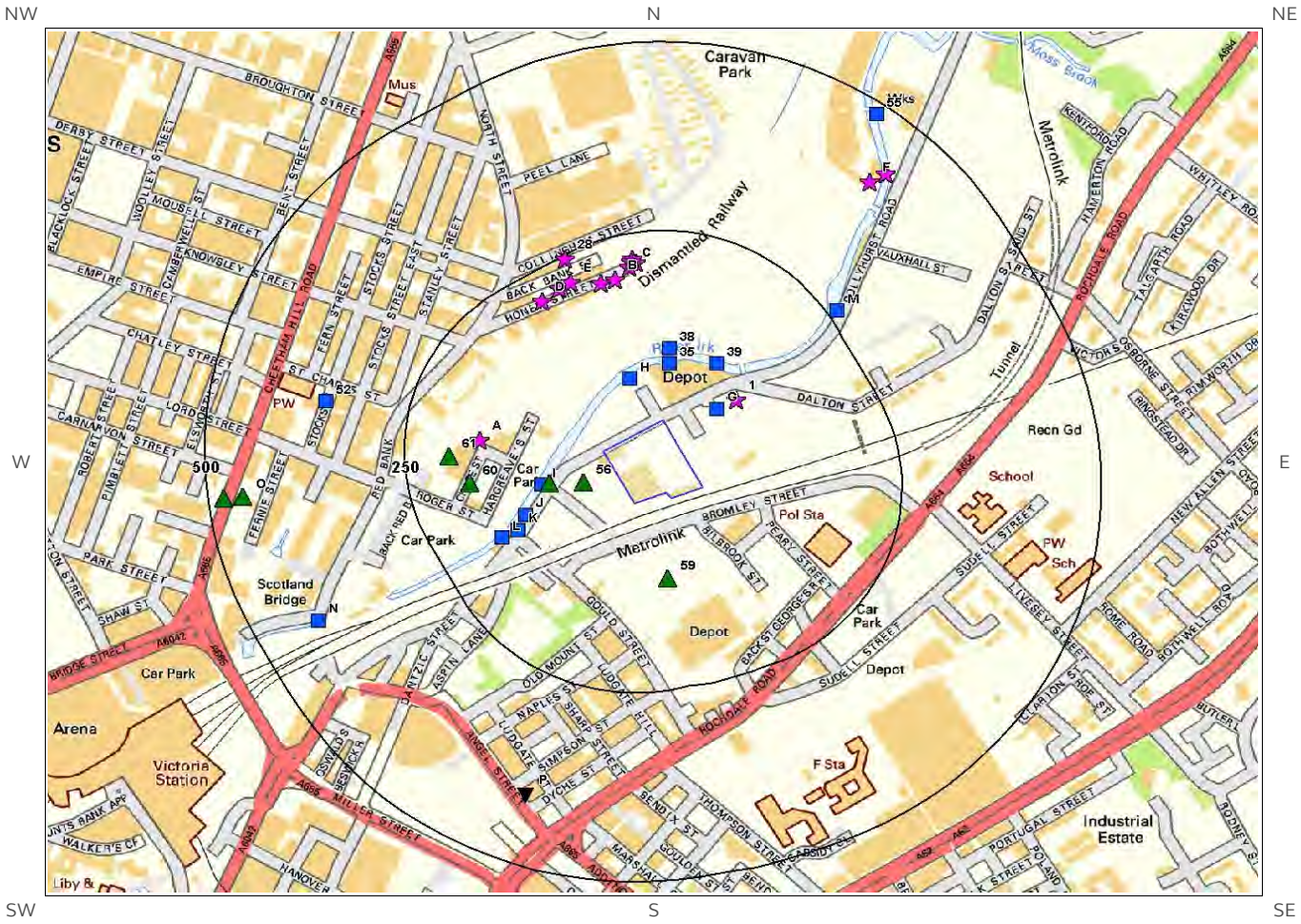
ID	Distance(m)	Direction	Use	Date
718DC	4	NE	Unspecified Ground Workings	1956
719M	57	NW	Unspecified Ground Workings	1921
720M	73	NW	Unspecified Ground Workings	1988
721M	73	NW	Unspecified Ground Workings	1994
722N	75	W	Refuse Heap	1933
723N	75	W	Refuse Heap	1938

724M	76	NW	Unspecified Ground Workings	1956
725Q	92	N	Unspecified Ground Workings	1994
726Q	92	N	Unspecified Ground Workings	1988
727DD	96	NW	Unspecified Ground Workings	1891
728R	113	N	Unspecified Ground Workings	1971
729R	113	N	Unspecified Ground Workings	1956
730R	113	N	Unspecified Ground Workings	1985
731R	113	N	Unspecified Ground Workings	1978
732S	123	NW	Pond	1891
733	130	NW	Pond	1851
734	132	W	Pond	1894
735DE	158	N	Unspecified Ground Workings	1891
736DF	166	SW	Grave Yard	1851
737CL	193	NE	Unspecified Ground Workings	1891
738AG	209	N	Brick Works	1956
739AA	227	N	Unspecified Ground Workings	1933
740AA	227	N	Unspecified Ground Workings	1921
741AA	227	N	Brick Works	1938
742AA	227	N	Brick Works	1921
743AA	227	N	Brick Works	1933
744AA	227	N	Brick Works	1906
745AA	227	N	Unspecified Ground Workings	1906
746AB	234	NE	Unspecified Ground Workings	1933
747AB	234	NE	Unspecified Heap	1938
748AF	272	N	Clay Pit	1923
749AN	277	N	Pond	1933
750AF	277	N	Pond	1938
751AF	277	N	Unspecified Pit	1933
752DG	277	SW	Disused Grave Yard	1978
753AG	280	N	Unspecified Ground Workings	1956
754AB	289	NE	Pond	1851
755AN	310	N	Clay Pit	1921
756AL	311	E	Tunnel	1956
757AL	311	E	Tunnel	1978
758AL	311	E	Tunnel	1968
759	322	N	Unspecified Heap	1956

760AL	327	E	Tunnel	1985
761AL	327	E	Tunnel	1991
762DH	332	N	Unspecified Ground Workings	1938
763AT	352	NE	Unspecified Ground Workings	1921
764AT	352	NE	Unspecified Ground Workings	1933
765AT	352	NE	Unspecified Ground Workings	1938
766AU	357	N	Unspecified Heap	1956
767AY	368	NE	Unspecified Heap	1923
768AY	368	NE	Unspecified Heap	1906
769AZ	373	E	Tunnel	1906
770AZ	373	E	Tunnel	1923
771AZ	373	E	Tunnel	1938
772AZ	373	E	Tunnel	1933
773AZ	373	E	Tunnel	1921
774BP	374	NE	Unspecified Ground Workings	1891
775DI	375	NE	Pond	1851
776CY	377	W	Unspecified Ground Workings	1851
777AT	379	NE	Unspecified Ground Workings	1971
778AT	379	NE	Unspecified Ground Workings	1988
779AT	379	NE	Unspecified Ground Workings	1956
780AT	379	NE	Unspecified Ground Workings	1994
781AT	379	NE	Unspecified Ground Workings	1985
782AT	379	NE	Unspecified Ground Workings	1978
783	379	SW	Pond	1851
784DK	416	N	Ponds	1891
785AR	427	N	Brick Works	1923
786BJ	427	SW	Pond	1894
787BJ	429	SW	Pond	1923
788BJ	429	SW	Pond	1938
789BJ	429	SW	Pond	1931
790BJ	429	SW	Pond	1916
791BJ	429	SW	Pond	1906
792DJ	439	W	Brick Field	1851
793DK	456	N	Ponds	1923
794DK	458	N	Pond	1921
795BM	481	NE	Unspecified Heap	1978
796BM	481	NE	Unspecified Heap	1968
797BM	481	NE	Unspecified Heap	1956

798BM	492	NE	Unspecified Heap	1985
799BM	492	NE	Unspecified Heap	1991
800BP	494	NE	Unspecified Heap	1923
801BP	494	NE	Unspecified Heap	1906

2. Environmental Permits, Incidents and Registers Map



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- Site Outline
- Search Buffers (m) 250 / 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

8

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
56	44	SW	384542 399401	Address: Concret Barrowing Company Ltd, Hargreaves Street, Cheetham, M4 4EJ Process: Concrete Processes. Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
57I	81	SW	384500 399400	Address: Tan Yard Metal Ltd, Hargreaves St, M4 4EJ Process: Non-ferrous Alloys Process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
58I	81	SW	384500 399400	Address: Place Mix Ltd, Hargreave St, M4 4EJ Process: Cement/lime/mortar Process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
59	109	S	384648 399274	Address: Manchester Tabacco Ltd, Ludgate Hill, Manchester, M4 4DA Process: Animal And Vegetable Matter. Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
60	174	W	384400 399400	Address: New Mix Concrete, Roger St, M4 4EN Process: Cement/lime/mortar Process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
61	194	W	384374 399435	Address: Avis Rent A Car Ltd, Avis Bodyshop, Chase Street, Redbank, Cheetham, Hill, M4 4FL Process: Respraying Of Road Vehicles. Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
62O	457	W	384115 399382	Address: Redbank Service Station, 58 Cheetham Hill Road, M4 4EX Process: Petrol Filling Station Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
63O	481	W	384091 399380	Address: Cheetham Hill Serv Stn, Cheetham Hill Rd, M4 4FT Process: Petrol Vapour Recovery Process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

1

The following RAS Licence (3 or 4) records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
65P	409	S	384470 398990	Brooke Edgley Specialist Technical Services Ltd, Unit 4, Angel Industrial Estate, Angel Street, Manchester, M4 4BQ	Brooke Edgley Specialist Technical Services Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BI9880	Date of Approval:7/8/2000 Effective from:7/8/2000 Last date of update:2015-01-01	Revoked/cancelled

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

25

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
31G	66	NE	384710 399500	Address: DALTON ST/DANTZIC STREET SSO, DALTON ST/DANTZIC STREET, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982623 Permit Version: 1	Receiving Water: Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 30-Sep-1994 Revocation Date: 03/12/2014
32G	66	NE	384710 399500	Address: DALTON ST/DANTZIC STREET SSO, DALTON ST/DANTZIC STREET, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0264 Permit Version: 1	Receiving Water: Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 01/01/1995
33H	68	NW	384600 399540	Address: DANTZIC ST/WARFORD ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0039 Permit Version: 2	Receiving Water: Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03-Sep-2010 Revocation Date: -
34H	68	NW	384600 399540	Address: DANTZIC ST/WARFORD ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0039 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 02/09/2010

ID	Distance (m)	Direction	NGR	Details	
35	74	N	384650 399560	Address: DANTZIC STREET CSO, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982951 Permit Version: 2	Receiving Water: Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: - Effective Date: 07-Dec-2004 Revocation Date: -
36I	90	SW	384490 399400	Address: BROMLEY ST SSO, BROMLEY ST, NEAR RAILWAY ARCH, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0310 Permit Version: 1	Receiving Water: Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 01/01/1995
37I	90	SW	384490 399400	Address: BROMLEY ST SSO, BROMLEY ST, NEAR RAILWAY ARCH, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982627 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 30-Sep-1994 Revocation Date: -
38	94	N	384650 399580	Address: DANTZIC STREET CSO, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982951 Permit Version: 1	Receiving Water: Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 23-Jun-1995 Revocation Date: 06/12/2004
39	100	NE	384710 399560	Address: DUCAL ST/DANTZIC ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0057 Permit Version: 1	Receiving Water: Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 25/10/1995
40J	127	SW	384470 399360	Address: BROMLEY ST/DANTZIC ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0046 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 13/04/2009
41J	127	SW	384470 399360	Address: PARLANE ST/DANTZIC ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0061 Permit Version: 1	Receiving Water: Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 25/10/1995
42J	127	SW	384470 399360	Address: BROMLEY ST/DANTZIC ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0046 Permit Version: 2	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 14/04/2009 Effective Date: 14-Apr-2009 Revocation Date: -

ID	Distance (m)	Direction	NGR	Details	
43K	145	SW	384460 399340	Address: GOULD ST/JASON ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0047 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 13/04/2009
44K	145	SW	384460 399340	Address: GOULD ST/JASON ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0047 Permit Version: 3	Receiving Water: Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03-Sep-2010 Revocation Date: 03/12/2014
45K	145	SW	384460 399340	Address: GOULD ST/JASON ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0047 Permit Version: 2	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 14/04/2009 Effective Date: 14-Apr-2009 Revocation Date: 02/09/2010
46L	168	SW	384440 399330	Address: LORD ST & RED BANK, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0062 Permit Version: 1	Receiving Water: Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 25/10/1995
47L	168	SW	384440 399330	Address: ROGER ST/HARGREAVES ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0059 Permit Version: 2	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 14/04/2009 Effective Date: 14-Apr-2009 Revocation Date: 02/09/2010
48L	168	SW	384440 399330	Address: ROGER ST/HARGREAVES ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0059 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 13/04/2009
49L	168	SW	384440 399330	Address: ROGER ST/HARGREAVES ST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0059 Permit Version: 3	Receiving Water: Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03-Sep-2010 Revocation Date: -
50M	261	NE	384860 399630	Address: BURTON ST SSO, NR DALTON ST, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0263 Permit Version: 1	Receiving Water: Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 01/01/1995
51M	261	NE	384860 399630	Address: BURTON ST SSO, NR DALTON ST, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982622 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 30-Sep-1994 Revocation Date: -

ID	Distance (m)	Direction	NGR	Details	
52	354	W	384220 399510	Address: CHEETHAM HILL RD, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0369 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: -
53N	422	SW	384210 399220	Address: ASPIN LANE, ANCOATS, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0031 Permit Version: 1	Receiving Water: Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01-Jan-1995 Revocation Date: 02/09/2010
54N	422	SW	384210 399220	Address: ASPIN LANE, ANCOATS, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0031 Permit Version: 2	Receiving Water: Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03-Sep-2010 Revocation Date: -
55	485	NE	384910 399890	Address: ROCHDALE RD/COLLYHURST, MANCHESTER, GREATER MANCHESTER Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993740 Permit Version: 1	Receiving Water: Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 11/07/2005 Effective Date: 11-Jul-2005 Revocation Date: -

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

2.3 Environment Agency Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

30

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	92	NE	384733 399512	Incident Date: 04-Sep-2001 Incident Identification: 28889 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
2A	157	W	384412 399459	Incident Date: 10-Dec-2012 Incident Identification: 1066931 Pollutant: Specific Waste Materials Pollutant Description: Asbestos	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
3A	157	W	384412 399459	Incident Date: 10-Dec-2012 Incident Identification: 1066931 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
4A	157	W	384412 399459	Incident Date: 10-Dec-2012 Incident Identification: 1066931 Pollutant: Specific Waste Materials Pollutant Description: Tyres	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
5A	157	W	384412 399459	Incident Date: 10-Dec-2012 Incident Identification: 1066931 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
6B	195	N	384581 399671	Incident Date: 13-May-2012 Incident Identification: 990313 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
7B	195	N	384581 399671	Incident Date: 13-May-2012 Incident Identification: 990313 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
8B	195	N	384581 399671	Incident Date: 13-May-2012 Incident Identification: 990313 Pollutant: Specific Waste Materials Pollutant Description: Tyres	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
9B	195	N	384581 399671	Incident Date: 13-May-2012 Incident Identification: 990313 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
10B	197	NW	384564 399667	Incident Date: 24-Apr-2002 Incident Identification: 74406 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

ID	Distance (m)	Direction	NGR	Details	
11C	207	N	384599 399688	Incident Date: 04-Oct-2002 Incident Identification: 70537 Pollutant: Inert Materials and Wastes : Specific Waste Materials Pollutant Description: Construction and Demolition Materials and Wastes :Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
12C	207	N	384599 399688	Incident Date: 10-Apr-2002 Incident Identification: 70537 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
13C	207	N	384599 399688	Incident Date: 10-Apr-2002 Incident Identification: 70537 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
14C	207	N	384599 399688	Incident Date: 04-Oct-2002 Incident Identification: 70537 Pollutant: Specific Waste Materials Pollutant Description: Construction and Demolition Materials and Wastes Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
15C	207	N	384599 399688	Incident Date: 10-Apr-2002 Incident Identification: 70537 Pollutant: Inert Materials and Wastes:Specific Waste Materials Pollutant Description: Construction and Demolition Materials and Wastes:Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
16C	211	N	384608 399694	Incident Date: 18-Feb-2002 Incident Identification: 59103 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
17C	211	N	384608 399694	Incident Date: 18-Feb-2002 Incident Identification: 59103 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
18C	211	N	384608 399694	Incident Date: 18-Feb-2002 Incident Identification: 59103 Pollutant: Inert Materials and Wastes:Specific Waste Materials Pollutant Description: Construction and Demolition Materials and Wastes:Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
19D	212	NW	384490 399643	Incident Date: 12-Sep-2008 Incident Identification: 620850 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Effects on Humans	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 2 (Significant)
20D	212	NW	384490 399643	Incident Date: 12-Sep-2008 Incident Identification: 620850 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 2 (Significant)
21D	212	NW	384490 399643	Incident Date: 12-Sep-2008 Incident Identification: 620850 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 2 (Significant)

ID	Distance (m)	Direction	NGR	Details	
22C	213	N	384602 399695	Incident Date: 22-Mar-2002 Incident Identification: 65939 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
23E	216	NW	384526 399668	Incident Date: 15-Apr-2002 Incident Identification: 71723 Pollutant: Inert Materials and Wastes:Specific Waste Materials Pollutant Description: Construction and Demolition Materials and Wastes:Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
24E	216	NW	384526 399668	Incident Date: 15-Apr-2002 Incident Identification: 71723 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
25E	216	NW	384526 399668	Incident Date: 15-Apr-2002 Incident Identification: 71723 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
26C	216	N	384603 399698	Incident Date: 05-Feb-2002 Incident Identification: 57584 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
27E	216	NW	384511 399660	Incident Date: 24-Jun-2002 Incident Identification: 86928 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
28	245	NW	384519 399698	Incident Date: 27-Sep-2001 Incident Identification: 33323 Pollutant: Organic Chemicals/Products Pollutant Description: Solvents	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
29F	406	NE	384900 399800	Incident Date: 03-Feb-2002 Incident Identification: 56063 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
30F	428	NE	384920 399811	Incident Date: 14-Aug-2001 Incident Identification: 24042 Pollutant: Inert Materials and Wastes Pollutant Description: Other Inert Material or Waste	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

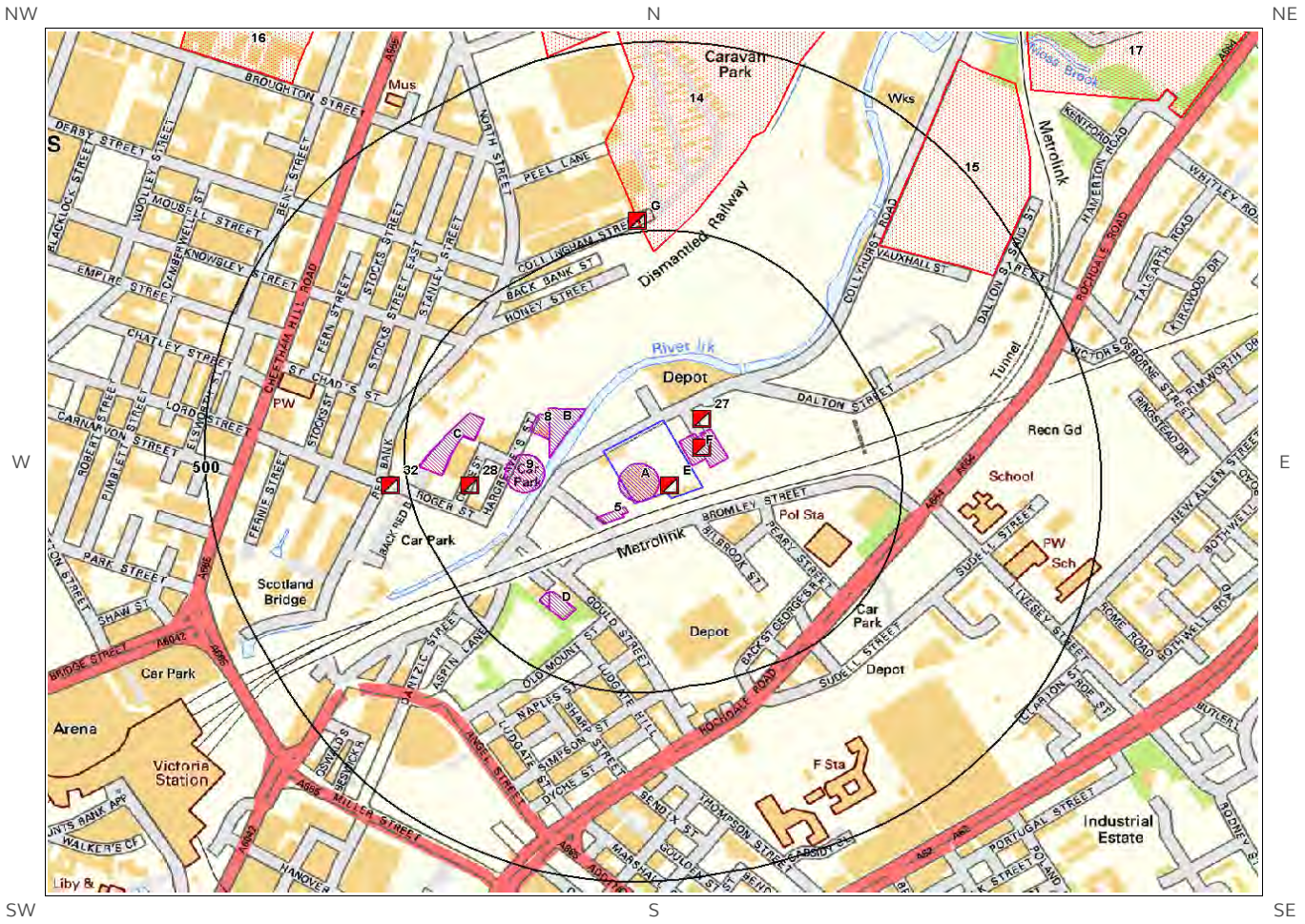
Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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Site Outline

250
500
Search Buffers (m)

E.A. Active Landfill

E.A. Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

E.A. Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

6

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
14	223	N	384700 400100	Site Address: Queens Road Tip - Land to South of Queens Road and North of Collingham Street, Cheetham, Manchester, Greater Manchester Waste Licence: Yes Site Reference: F005,RD/LIC/241/82 Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 01-Jan-1974 Licence Surrendered: Licence Hold Address: - Operator: H Evers Limited First Recorded: 31-Dec-1955 Last Recorded: 31-Dec-1970
15	356	NE	385000 399800	Site Address: Sand Street, Collyhurst, Greater Manchester Waste Licence: - Site Reference: F027 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: - Last Recorded: -
16	624	NW	384100 400000	Site Address: Elizabeth Street, Cheetham, Greater Manchester Waste Licence: - Site Reference: F030 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: - Last Recorded: -
17	636	NE	385200 400000	Site Address: Land at Fitzgeorge Street, Collyhurst, Manchester, Greater Manchester Waste Licence: - Site Reference: F031 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: - Last Recorded: -

ID	Distance (m)	Direction	NGR	Details	
Not shown	1089	W	383300 399400	Site Address: Overbridge Road, Salford, Greater Manchester Waste Licence: - Site Reference: E090 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: - Last Recorded: -
Not shown	1265	NW	383400 400400	Site Address: Land at Fairy Lane, Cheetham Hill, Manchester, Greater Manchester Waste Licence: - Site Reference: F015 Waste Type: Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: - Last Recorded: -

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

1

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	829	N	384800.0 400300.0	Address: H Evans Ltd, Queens Rd Tip, Cheetham, Manchester BGS Number: 848.0	Risk: No risk to aquifer Waste Type: N/A

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

1

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1262	W	383302 399677	Pricewise, 1 Overbridge Road, Salford	Manchester city council	Point

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

12

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
2A	0	On Site	384612 399402	Type of Site: Waste Recycling Shed (Conversion) Site Address: 204 Dantzic Street, MANCHESTER, Greater Manchester, M4 4DD	Planning Application Reference: 077598/FO/2005/N1 Date: -	Further Details: Scheme comprises change of use of shed from warehouse to sorting shed for skip waste recycling. An application (ref: 077598/FO/2005/N1) for detailed planning permission was granted by Manchester C.C. Planning decision obtained Data Source: Historic Planning Application Data Type: Point
3A	0	On Site	384612 399402	Type of Site: Waste Recycling Shed (Conversion) Site Address: 204 Dantzic Street, MANCHESTER, Greater Manchester, M4 4DD	Planning Application Reference: 077598/FO/2005/N1 Date: -	Further Details: Scheme comprises change of use of shed from warehouse to sorting shed for skip waste recycling. An application (ref: 077598/FO/2005/N1) for detailed planning permission was granted by Manchester C.C. Planning decision obtained Data Source: Historic Planning Application Data Type: Point
4F	3	NE	384693 399448	Type of Site: Scrap Metal Works Site Address: N/A	Planning Application Reference: N/A Date: 1969	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
5	12	SW	384577 399359	Type of Site: Scrap Metal Works Site Address: N/A	Planning Application Reference: N/A Date: 1969	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
6B	52	NW	384510 399468	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1993	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
7B	52	NW	384510 399468	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1994	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
8	70	W	384487 399478	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1995	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

ID	Distance (m)	Direction	NGR	Details	
9	78	W	384469 399414	Type of Site: Waste Transfer Station Site Address: Hargreaves Street, Hargreaves Street, MANCHESTER, Greater Manchester, M4 4EJ	Planning Application Reference: 54626 Date: -	Further Details: Building to be used as a waste transfer station. Use of the land for storage of re-cycled materials for existing concrete business. Garage/workshop buildings and portable buildings relocated. An application (ref: 54626) for Detailed Planning permissn was submitted to Manchester C.C. on 12th June 1998. Data Source: Historic Planning Application Data Type: Point
10D	154	SW	384516 399239	Type of Site: Breakers Yard Site Address: N/A	Planning Application Reference: N/A Date: 1984	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
11C	156	W	384377 399453	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1989	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
12C	156	W	384376 399453	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1995	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
13D	159	SW	384493 399247	Type of Site: Breakers Yard Site Address: N/A	Planning Application Reference: N/A Date: 1990	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

19

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
20E	0	On Site	384650 399400	Site Address: Warford Street, Collyhurst, Manchester, M4 4DD Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: FAR008 EPR reference: - Operator: Farlam Waste Management Ltd Waste Management licence No: 50461 Annual Tonnage: 0.0	Issue Date: 20/02/2007 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Farlam Waste Management Ltd Correspondence Address: -, Warford Street, Off Dantzic Street, Collyhurst, Manchester, M4 4DD

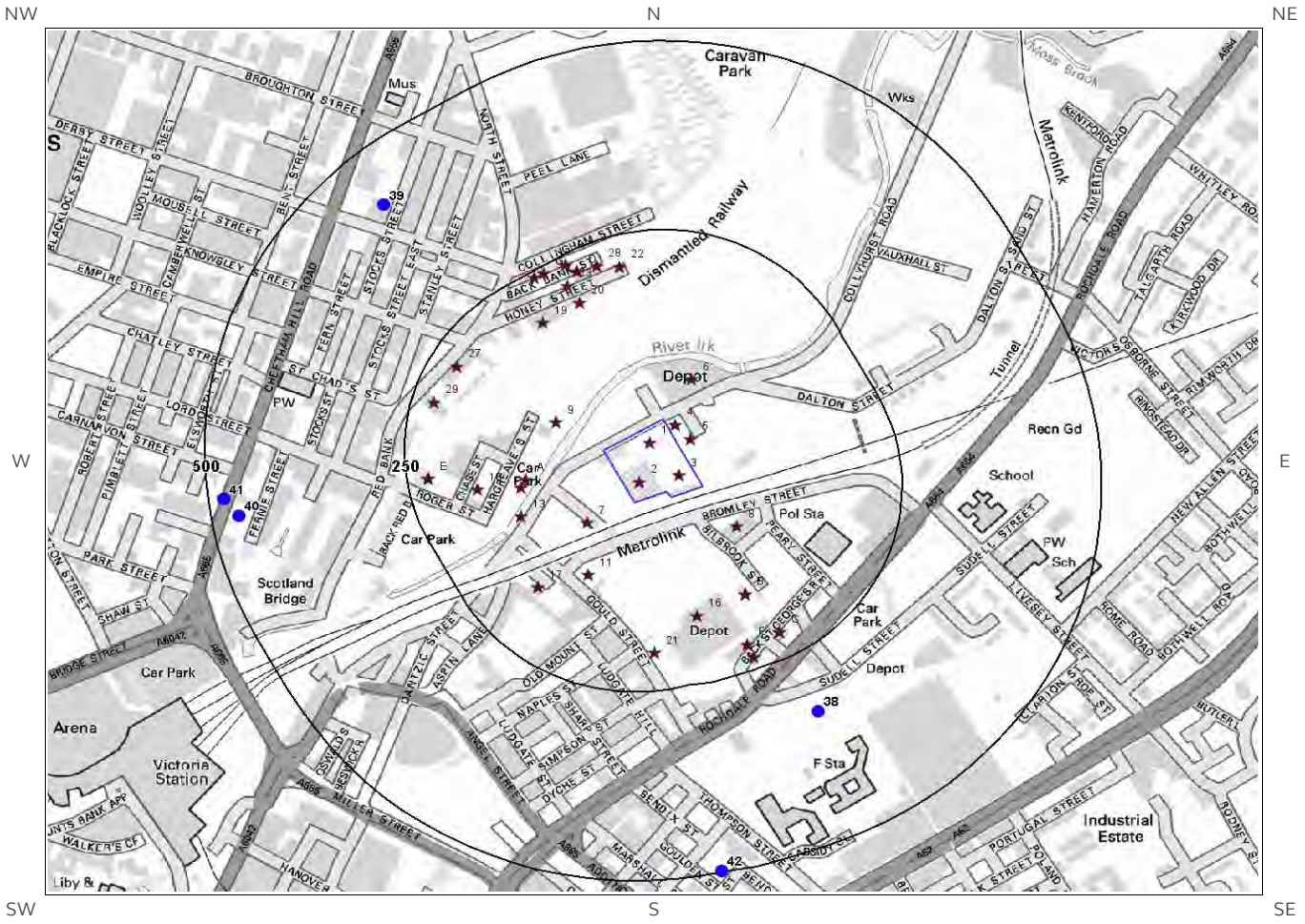
ID	Distance (m)	Direction	NGR	Details	
21E	0	On Site	384650 399400	Site Address: Warford Street, Collyhurst, Manchester, M4 4JJ Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: FPL001 EPR reference: EA/EPR/DP3098CF/A001 Operator: Farlam Properties Ltd Waste Management licence No: 50118 Annual Tonnage: 24999.0	Issue Date: 27/08/2002 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Farlam Properties Ltd Correspondence Address: -, -
22E	0	On Site	384650 399400	Site Address: Land/premises At, Warford Street, Collyhurst, Manchester, M4 4DD Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: FAR008 EPR reference: EA/EPR/YP3594CH/V002 Operator: Farlam Waste Management Ltd Waste Management licence No: 50461 Annual Tonnage: 74999.0	Issue Date: 20/02/2007 Effective Date: - Modified: 12/11/2010 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Farlam Waste Management Ltd Correspondence Address: -, -
23F	24	NE	384690 399449	Site Address: Land/premises At, Dulwich Street, Collyhurst, Manchester, M4 4JJ Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JRC001 EPR reference: EA/EPR/WP3898CJ/T003 Operator: Ryan John Waste Management licence No: 50084 Annual Tonnage: 75000.0	Issue Date: 15/03/2002 Effective Date: 04/07/2007 Modified: 26/07/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: J Ryan Correspondence Address: -, -
24F	24	NE	384690 399449	Site Address: Dulwich Street, Collyhurst, Manchester, M4 4JJ Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JR001 EPR reference: - Operator: J Ryan & Co Ltd Waste Management licence No: 50084 Annual Tonnage: 0.0	Issue Date: 15/03/2002 Effective Date: - Modified: 26/07/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: J Ryan & Co Ltd Correspondence Address: -, Pearl Environmental Services, 13, Middleton Road, Reddish, Stockport, Cheshire, SK5 6SG
25F	24	NE	384690 399449	Site Address: Dulwich Street, Collyhurst, Manchester, M4 4JJ Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JR001 EPR reference: - Operator: J Ryan & Co Ltd Waste Management licence No: 50084 Annual Tonnage: 0.0	Issue Date: 15/03/2002 Effective Date: - Modified: 26/07/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: J Ryan & Co Ltd Correspondence Address: Brian Cook, Pearl Environmental Services, 13, Middleton Road, Reddish, Stockport, Cheshire, SK5 6SG

ID	Distance (m)	Direction	NGR	Details	
26F	24	NE	384690 399449	Site Address: Dulwich Street, Collyhurst, Manchester, M4 4JJ Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JR001 EPR reference: - Operator: J Ryan & Co Ltd Waste Management licence No: 50084 Annual Tonnage: 0.0	Issue Date: 15/03/2002 Effective Date: - Modified: 26/07/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: J Ryan & Co Ltd Correspondence Address: -, Pearl Environmental Services, 13, Middleton Road, Reddish, Stockport, Cheshire, SK5 6SG
27	43	NE	384690 399487	Site Address: Dulwich Street, Collyhurst, Manchester, M4 4JJ Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JR001 EPR reference: - Operator: J Ryan & Co Ltd Waste Management licence No: 50084 Annual Tonnage: 25000.0	Issue Date: 15/03/2002 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: J Ryan & Co Correspondence Address: -, Pearl Environmental Services, 13, Middleton Road, Reddish, Stockport, Cheshire, SK5 6SG
28	174	W	384400 399400	Site Address: - Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PLT001 EPR reference: EA/EPR/CP3998CM/A001 Operator: Placemix Ltd Waste Management licence No: 50017 Annual Tonnage: 24900.0	Issue Date: 31/03/2000 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Placemix Ltd Transfer Station Correspondence Address: -, -
29G	266	N	384610 399750	Site Address: 23, Honey Street, Collyhurst, Manchester, M8 8RG Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: UKS001 EPR reference: - Operator: Uk Skip Hire Ltd Waste Management licence No: 50136 Annual Tonnage: 0.0	Issue Date: 02/01/2003 Effective Date: 14/05/2005 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Honey Street Transfer Station Correspondence Address: -, 23, Honey Street, Collyhurst, Manchester, M8 8RG
30G	266	N	384610 399750	Site Address: 21-23, Honey Street, Collyhurst, Manchester, M8 8RG Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: UKS001 EPR reference: EA/EPR/YP3498CV/T002 Operator: U K Skip Hire Ltd Waste Management licence No: 50136 Annual Tonnage: 24999.0	Issue Date: 02/01/2003 Effective Date: 14/05/2005 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Honey Street Transfer Station Correspondence Address: -, -

ID	Distance (m)	Direction	NGR	Details	
31G	266	N	384610 399750	Site Address: 23, Honey Street, Collyhurst, Manchester, M8 8RG Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MBS001 EPR reference: - Operator: Manchester And Bury Skip Hire Ltd Waste Management licence No: 50136 Annual Tonnage: 0.0	Issue Date: 02/01/2003 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Honey Street Transfer Station Correspondence Address: -, 28, Alnwick Drive, Bury, Lancashire, BL9 8BZ
32	272	W	384300 399400	Site Address: Red Bank, Cheetham Hill, Manchester, M8 Type: Mobile Plant Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MEL002 EPR reference: EA/EPR/LP3292ZH/S002 Operator: Mel Ltd Waste Management licence No: 65243 Annual Tonnage: 75000.0	Issue Date: 17/04/2002 Effective Date: - Modified: - Surrendered Date: 06/02/2007 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Mobile Plant Correspondence Address: -, -
Not shown	554	S	384771 398842	Site Address: - Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KER003 EPR reference: EA/EPR/TP3494CL/S002 Operator: Brendan J Kershaw & Winston Brown Waste Management licence No: 50328 Annual Tonnage: 0.0	Issue Date: 10/08/2004 Effective Date: - Modified: - Surrendered Date: 06/07/2010 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: French Parts Uk Correspondence Address: -, -
Not shown	1082	NW	383690 400076	Site Address: - Type: Material Recycling Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KSD001 EPR reference: EA/EPR/KP3592CV/S002 Operator: Kains Steel Drums Waste Management licence No: 53472 Annual Tonnage: 75000.0	Issue Date: 17/11/1998 Effective Date: - Modified: - Surrendered Date: 22/08/2001 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Kains Steel Drums Correspondence Address: -, -
Not shown	1215	W	383354 399493	Site Address: 23, Cottenham Lane, Salford, Manchester, M7 1TH Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MOT002 EPR reference: EA/EPR/SP3694CX/A001 Operator: Motor Body Services (salford) Ltd Waste Management licence No: 50240 Annual Tonnage: 2500.0	Issue Date: 13/07/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: M B S & Partfirst Correspondence Address: -, -
Not shown	1215	W	383354 399493	Site Address: 23, Cottenham Lane, Salford, Manchester, M7 1TH Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MOT002 EPR reference: EA/EPR/SP3694CX/A001 Operator: Motor Body Services (Salford) Ltd Waste Management licence No: 50240 Annual Tonnage: 2500.0	Issue Date: 13/07/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: M B S & Partfirst Correspondence Address: -, -

ID	Distance (m)	Direction	NGR	Details	
Not shown	1373	W	383200 399566	Site Address: Cambridge Industrial Area, Cottenham Lane, Salford, Lancashire, M7 1GS Type: Special Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GSC001 EPR reference: EA/EPR/UP3692CM/S002 Operator: Granyte Surface Coatings Plc Waste Management licence No: 53446 Annual Tonnage: 50000.0	Issue Date: 21/09/1999 Effective Date: - Modified: - Surrendered Date: 03/07/2002 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Granyte Surface Coatings Plc Correspondence Address: -, -
Not shown	1401	W	383201 399751	Site Address: Unit 26, Caroline Street, Salford, Manchester, M7 1SS Type: Material Recycling Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: EGR001 EPR reference: EA/EPR/YP3492CM/A001 Operator: Gregson Ernest Waste Management licence No: 53620 Annual Tonnage: 2083.333	Issue Date: 15/03/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Star Drums Correspondence Address: -, -

4. Current Land Use Map



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Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 37

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0	On Site	Depot	384625 399455	M4	Container and Storage	Transport, Storage and Delivery
2	0	On Site	Astra Signs	384612 399402	204, Dantzic Street, Manchester, M4 4DD	Signs	Industrial Products
3	0	On Site	Depot	384662 399412	M4	Container and Storage	Transport, Storage and Delivery
4	10	NE	Farlam Waste Management Ltd	384657 399478	Dantzic Street, Manchester, M4 4DD	Construction and Tool Hire	Hire Services
5	17	NE	Depot	384676 399460	M4	Container and Storage	Transport, Storage and Delivery
6	64	NE	Depot	384677 399539	M4	Container and Storage	Transport, Storage and Delivery
7	65	SW	Marble Brewery	384547 399348	41, Bromley Street, Manchester, M4 4JS	Alcoholic Drinks	Foodstuffs
8	68	SE	Works	384734 399344	M4	Unspecified Works Or Factories	Industrial Features
9	71	NW	Scrap Yard	384508 399482	M4	Scrap Metal Merchants	Recycling Services
10A	105	W	Vale Works	384470 399406	M4	Unspecified Works Or Factories	Industrial Features
11	112	SW	Electricity Sub Station	384548 399280	M4	Electrical Features	Infrastructure and Facilities
12A	115	SW	Chimney	384464 399396	M4	Chimneys	Industrial Features
13	133	SW	The Runaway Brewery	384463 399357	Unit 4 Millgate, Dantzic Street, Manchester, M4 4JW	Alcoholic Drinks	Foodstuffs
14B	152	S	Mast	384744 399254	M4	Telecommunications Features	Infrastructure and Facilities
15B	153	S	Pylon	384745 399254	M4	Electrical Features	Infrastructure and Facilities
16	160	S	Depot	384684 399226	M4	Container and Storage	Transport, Storage and Delivery
17	165	SW	M J T Motors	384485 399263	Irk Street, Manchester, M4 4JT	Vehicle Repair, Testing and Servicing	Repair and Servicing
18	167	W	Works	384409 399393	M4	Unspecified Works Or Factories	Industrial Features

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
19	185	NW	M Z Fibres Ltd	384491 399613	14, Honey Street, Manchester, M8 8RG	Textiles, Fabrics, Silk and Machinery	Industrial Products
20	186	NW	Works	384537 399640	M8	Unspecified Works Or Factories	Industrial Features
21	199	S	Electricity Sub Station	384631 399177	M4	Electrical Features	Infrastructure and Facilities
22	209	N	Stocklock	384587 399687	33, Honey Street, Manchester, M8 8RG	Container and Storage	Transport, Storage and Delivery
23	213	NW	UK Skip Hire	384522 399662	21-23, Honey Street, Manchester, M8 8RG	Construction and Tool Hire	Hire Services
24C	215	SE	Northern Auto Ltd	384787 399204	117-119, Rochdale Road, Manchester, M4 4HZ	Vehicle Repair, Testing and Servicing	Repair and Servicing
25C	215	SE	Nothern Auto Electrical Services	384787 399204	117-119, Rochdale Road, Manchester, M4 4HZ	Vehicle Repair, Testing and Servicing	Repair and Servicing
26F	215	S	Depot	384747 399188	M4	Container and Storage	Transport, Storage and Delivery
27	216	NW	Creamline Dairies	384383 399556	56-58, Red Bank, Manchester, M8 8TS	Dairy Farming	Farming
28	219	N	Instyle UK Ltd	384558 399688	31, Honey Street, Manchester, M8 8RG	Clothing, Components and Accessories	Consumer Products
29	223	W	D P L Ltd	384354 399508	54, Red Bank, Manchester, M8 8QF	Beds and Bedding	Consumer Products
30D	223	NW	United Garage	384533 399681	25b, Honey Street, Manchester, M8 8RG	Vehicle Repair, Testing and Servicing	Repair and Servicing
31D	223	NW	J D Robinson Ironwork	384533 399681	25a, Honey Street, Manchester, M8 8RG	Metalworkers Including Blacksmiths	Construction Services
32E	223	W	Transporter	384347 399407	5, Roger Street, Manchester, M4 4EN	Vehicle Repair, Testing and Servicing	Repair and Servicing
33E	224	W	Farina Group	384347 399407	2a-2b, Roger Street, Manchester, M4 4EN	Signs	Industrial Products
34F	233	S	Great American Car Wash	384755 399171	1, Back St. Georges Road, Manchester, M4 4JD	Vehicle Cleaning Services	Personal, Consumer and Other Services
35D	238	NW	Quick Start Garage	384520 399690	Unit 5, Collingham Street, Manchester, M8 8RQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
36G	241	NW	Z Cars Auto Services	384492 399678	Unit 3, Collingham Street, Manchester, M8 8RQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
37G	242	NW	Premier Glass	384480 399672	Unit 2, Collingham Street, Manchester, M8 8RQ	Glass	Industrial Products

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 5

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
38	331	SE	384836 399099	Obsolete	Rochdale Road Service Station, 95-109, Rochdale Road, Rochdale Road, Manchester, Lancashire, M4 4HZ	Not Applicable	Obsolete
39	426	NW	384292 399769	Obsolete	Cheetham Hill Filling Station, 111, Cheetham Hill Road, Cheetham Hill Road, Manchester, Lancashire, M8 8PY	Not Applicable	Obsolete
40	466	W	384110 399358	Harvest Energy	Redbank Service Station, 58-76, Cheetham Hill Road, Cheetham Hill Road, Manchester, Lancashire, M4 4EX	No	Open
41	481	W	384091 399380	Obsolete	Cheetham Hill Service Station, 37-41, Cheetham Hill Road, Cheetham Hill Road, Manchester, Lancashire, M4 4FT	Not Applicable	Obsolete
42	499	S	384715 398888	Unbranded	Smithfield Service Station, 12, Rochdale Road, Rochdale Road, Bendix Street, Collyhurst, Manchester, Lancashire, M24 6DP	Not Applicable	Obsolete

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
TILLD	TILL, DEVENSIAN	DIAMICTON
TILLD	TILL, DEVENSIAN	DIAMICTON

5.3 Bedrock and Solid Geology

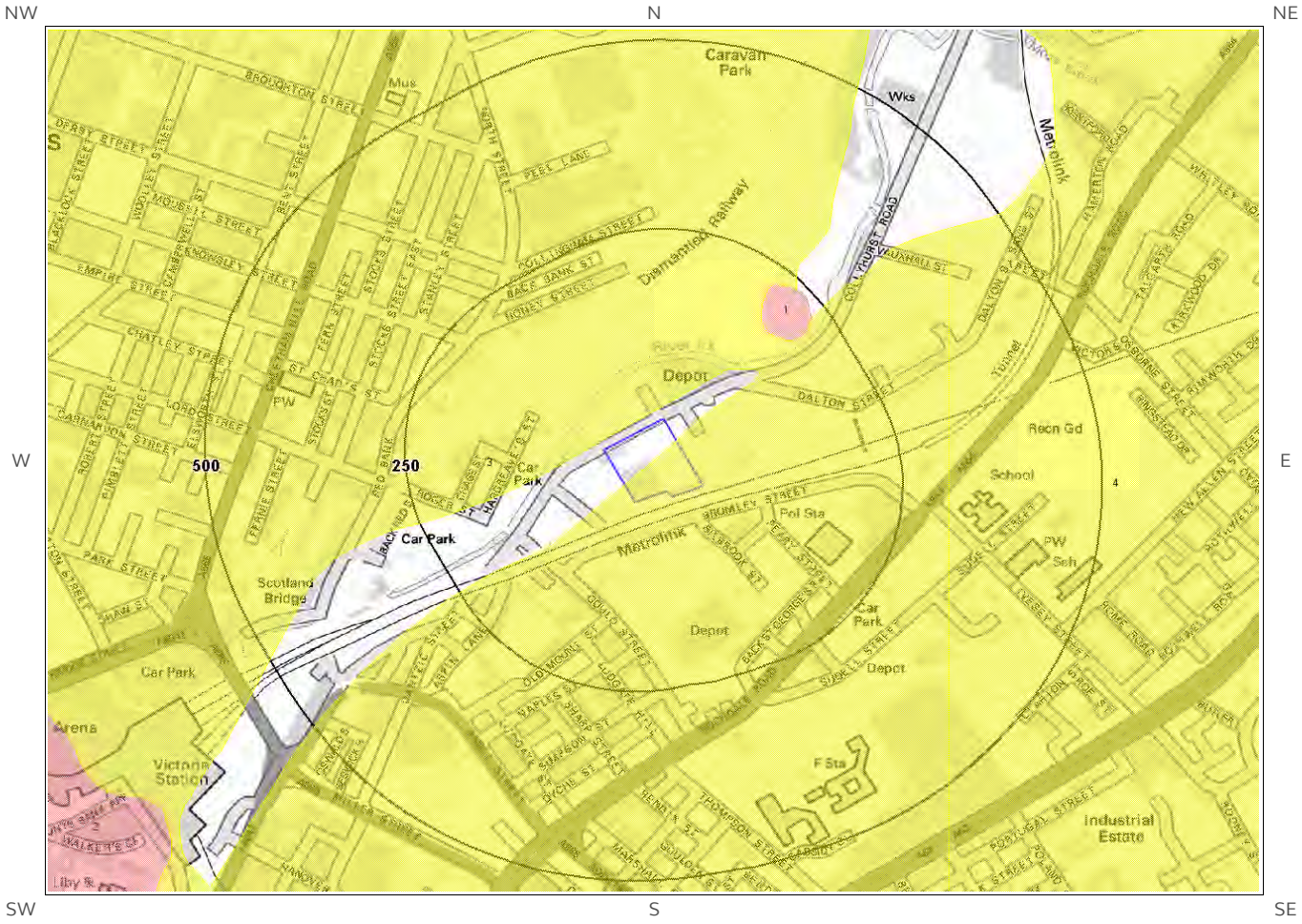
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
CPB-SDST	CHESTER PEBBLE BEDS FORMATION	SANDSTONE
MM-MDST	MANCHESTER MARLS FORMATION	MUDSTONE

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



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Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

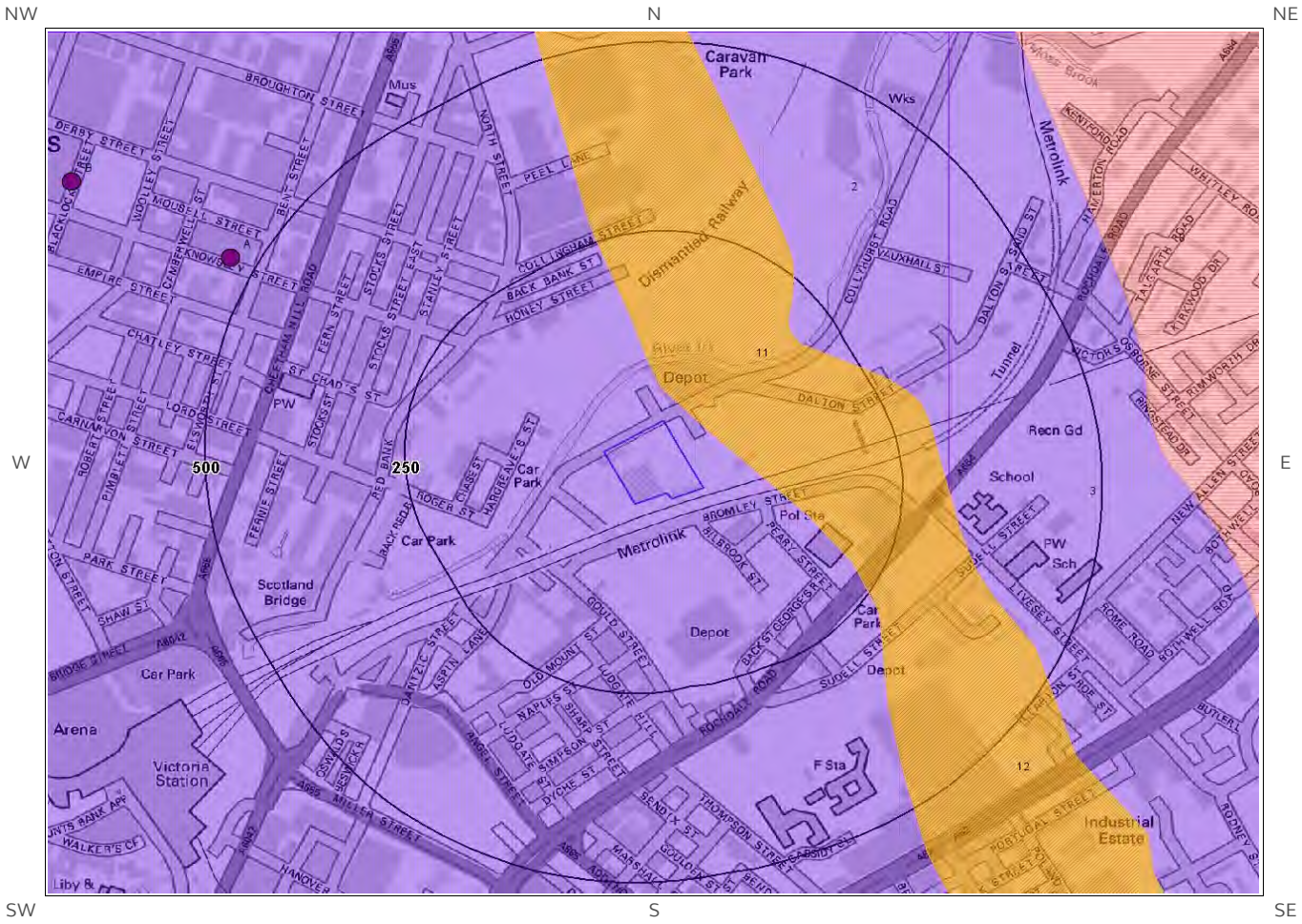
Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

6b. Aquifer Within Bedrock Geology and Abstraction Licenses



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Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

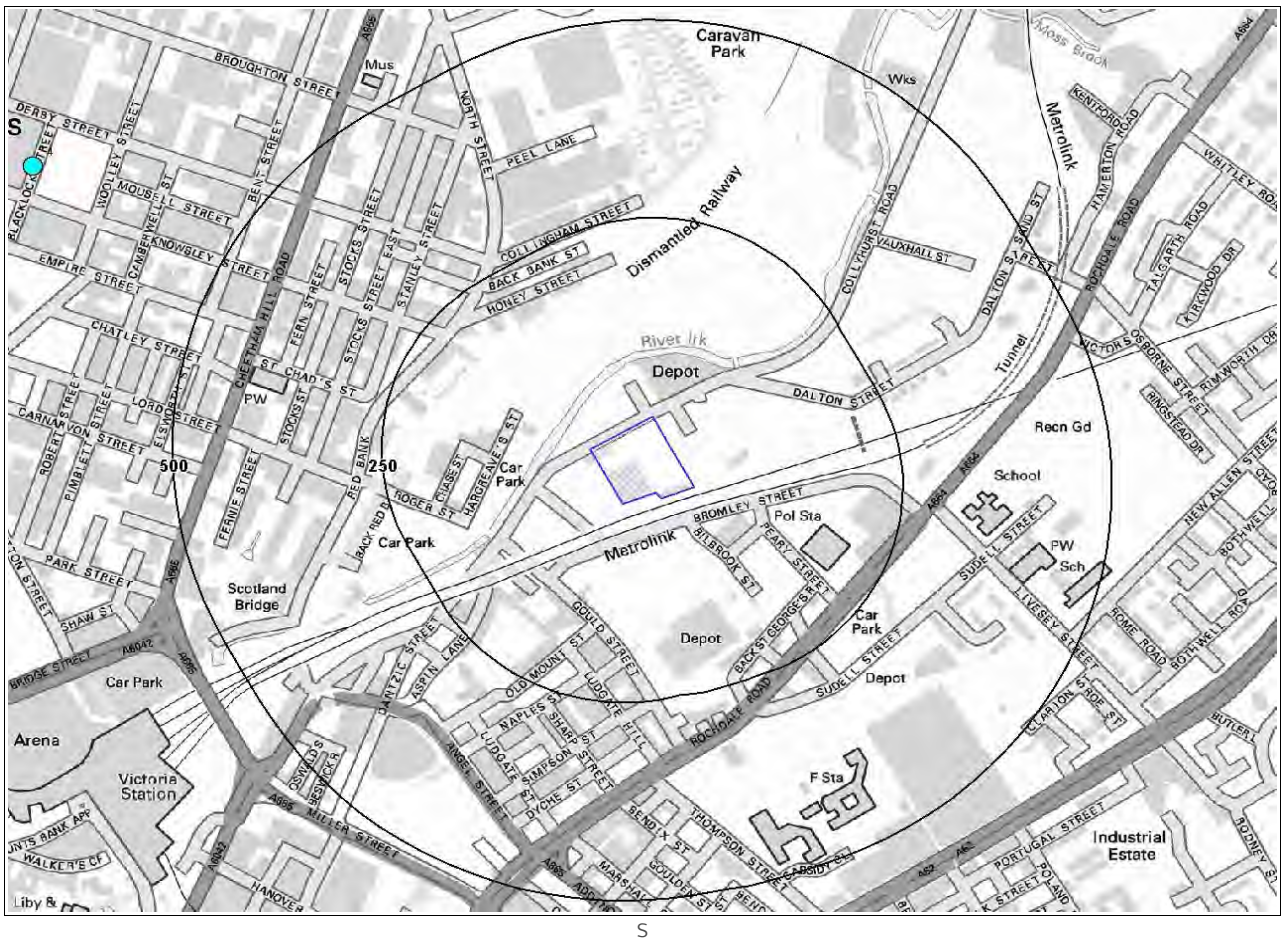
Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

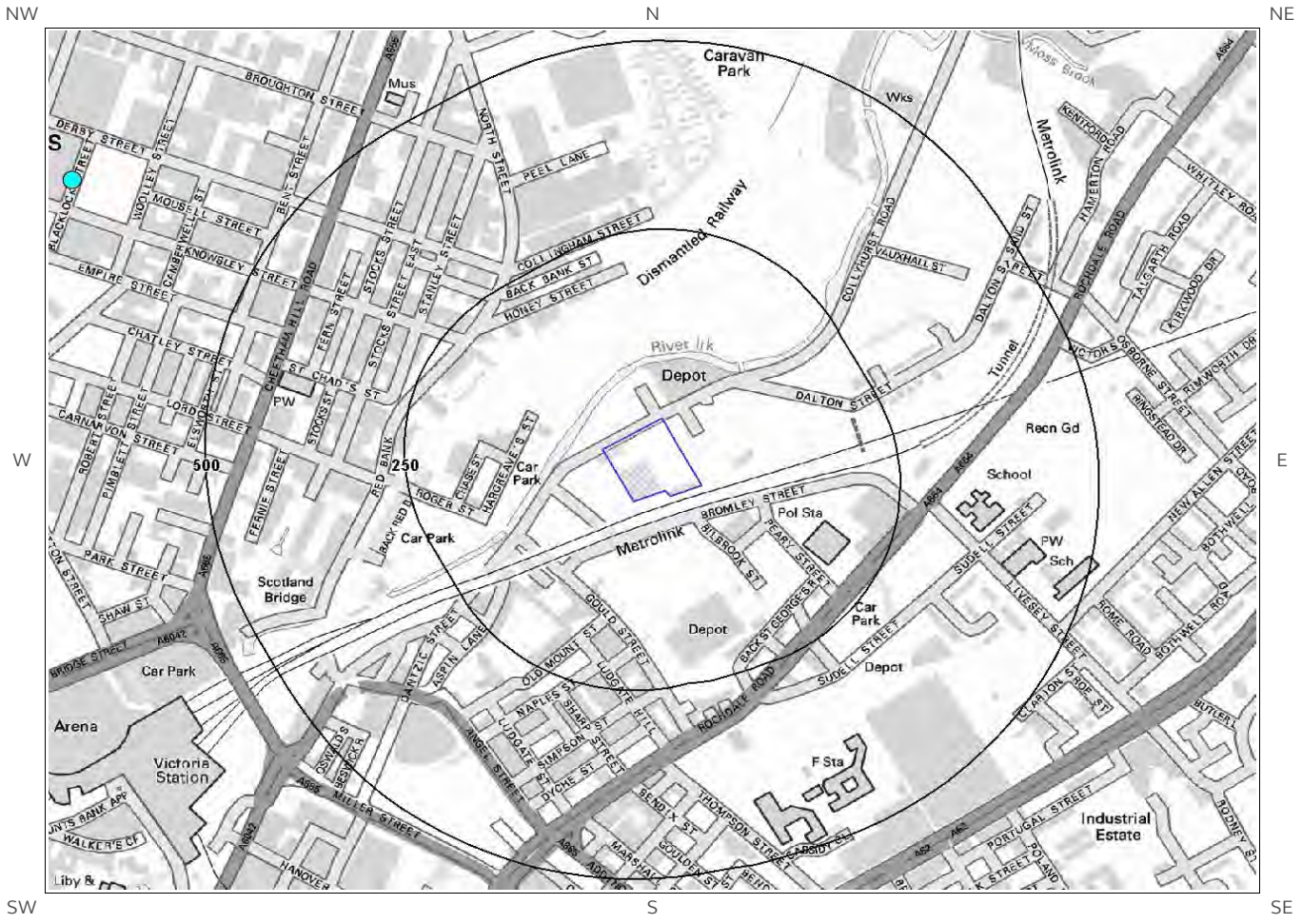
Surface Water Abstraction Licence

6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



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6d. Hydrogeology – Source Protection Zones within confined aquifer



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Site Outline

250 / 500 Search Buffers (m)

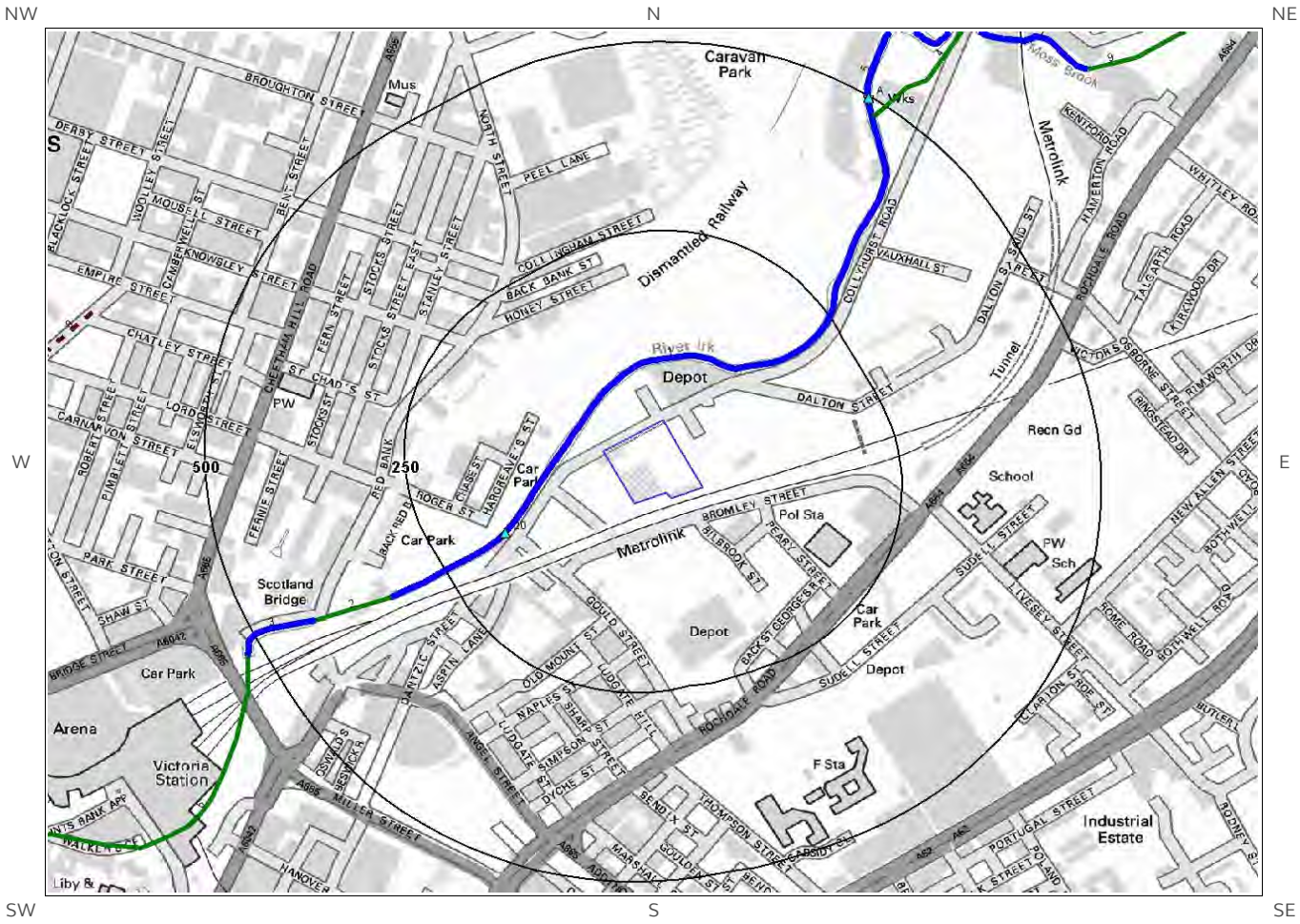
Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

Source Protection Zone 3C - Total Catchment within Confined Aquifer

Potable Water Abstraction Licence

6e. Hydrology – Detailed River Network and River Quality



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Site Outline

250
500
Search Buffers (m)

Primary River
Secondary River
Tertiary River
Lake/Reservoir
Underground River (inferred)
General Quality Assessment: Biology
General Quality Assessment: Chemistry

Canal
Canal Tunnel
Culvert
Multiple Channel Culvert
Underground River (Potential Sewer)
Underground River (local knowledge)

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
3	0	On Site	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
1	172	NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	308	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
11	29	NE	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers
2	197	NE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
3	308	E	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
12	308	E	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
14A	533	NW	384100 399700	Status: Historical Licence No: 2569004011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "borehole At Derby Brewery, Cheetham, Manchester 3" Data Type: Point Name: JOSEPH HOLT LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 423 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/2/1966 Version End Date:
15A	533	NW	384100 399700	Status: Historical Licence No: 2569004011 Details: Process water Direct Source: Ground Water - North West Region Point: "borehole At Derby Brewery, Cheetham, Manchester 3" Data Type: Point Name: JOSEPH HOLT LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 423 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/2/1966 Version End Date:
16A	533	NW	384100 399700	Status: Active Licence No: 2569004011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Borehole At Derby Brewery, Cheetham, Manchester 3 Data Type: Point Name: JOSEPH HOLT LTD	Annual Volume (m^3): 45460 Max Daily Volume (m^3): 181.84 Original Application No: 0423 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/2/1966 Version End Date:
17A	533	NW	384100 399700	Status: Active Licence No: 2569004011 Details: Process Water Direct Source: Ground Water - North West Region Point: Borehole At Derby Brewery, Cheetham, Manchester 3 Data Type: Point Name: JOSEPH HOLT LTD	Annual Volume (m^3): 45460 Max Daily Volume (m^3): 181.84 Original Application No: 0423 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/2/1966 Version End Date:
Not shown	711	NE	385000 400100	Status: Historical Licence No: 2569005015 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "b/hole, Little Green Works, Collyhurst Rd, Manchester 10" Data Type: Point Name: PACKAGING PRODUCTS LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 689 Original Start Date: 16/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/2/1995 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	711	NE	385000 400100	Status: Active Licence No: 2569005015 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/hole, Little Green Works, Collyhurst Rd, Manchester 10 Data Type: Point Name: Packaging Products (Coatings) Ltd	Annual Volume (m^3): 438689 Max Daily Volume (m^3): 1636.56 Original Application No: NPS/WR/006003 Original Start Date: 16/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 9/2/2011 Version End Date:
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 1 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: Borehole (no 1) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole (no 1) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: Borehole Number 1 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "borehole (no 1) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 9/8/2000 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole (no 1) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 9/8/2000 Version End Date:
26B	757	NW	383900 399800	Status: Historical Licence No: 2569004021 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Borehole At Premises, Derby Street, Cheetham, Manchester Data Type: Point Name: LANCASHIRE DAIRIES LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 1749 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/4/1993 Version End Date:
27B	757	NW	383900 399800	Status: Historical Licence No: 2569004021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Premises, Derby Street, Cheetham, Manchester Data Type: Point Name: LANCASHIRE DAIRIES LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 1749 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/4/1993 Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: Borehole Number 3 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 3 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: Borehole (no 3) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole (no 3) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 3 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: Borehole Number 3 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole (no 3) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 9/8/2000 Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "borehole (no 3) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 9/8/2000 Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: Borehole Number 2 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 2 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: Borehole (no 2) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole (no 2) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 2 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: Borehole Number 2 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 1/1/2004 Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole (no 2) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 9/8/2000 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "borehole (no 2) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: 9/8/2000 Version End Date:
Not shown	1131	SW	383700 398700	Status: Historical Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: Borehole At Dial House, Chapel St, Salford Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 2333 Original Start Date: 27/1/1971 Expiry Date: - Issue No: 101 Version Start Date: 1/4/1984 Version End Date:
Not shown	1131	SW	383700 398700	Status: Historical Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "borehole At Dial House, Chapel St, Salford" Data Type: Point Name: BRITISH TELECOM	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 2333 Original Start Date: 27/1/1971 Expiry Date: - Issue No: 100 Version Start Date: 27/1/1971 Version End Date:
Not shown	1131	SW	383700 398700	Status: Active Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: Borehole At Dial House Chapel Street Salford Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC	Annual Volume (m^3): 45 Max Daily Volume (m^3): 30 Original Application No: 2333 Original Start Date: 27/1/1971 Expiry Date: - Issue No: 101 Version Start Date: 1/4/2007 Version End Date:
Not shown	1465	S	384100 398000	Status: Historical Licence No: 2569007069 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Borehole At George St, Manchester Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC	Annual Volume (m^3): 1100 Max Daily Volume (m^3): 860 Original Application No: 2332 Original Start Date: 1/4/1984 Expiry Date: - Issue No: 100 Version Start Date: 1/4/2007 Version End Date:
Not shown	1465	S	384100 398000	Status: Historical Licence No: 2569007069 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "borehole At George St, Manchester" Data Type: Point Name: BRITISH TELECOM	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 2332 Original Start Date: 27/1/1971 Expiry Date: - Issue No: 100 Version Start Date: 27/1/1971 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1658	S	384378 397733	Status: Historical Licence No: NW0690006001 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: Boreholes At Origin Developments, Manchester Data Type: Point Name: West Contracting	Annual Volume (m^3): 139128 Max Daily Volume (m^3): 1010 Original Application No: 7623 Original Start Date: 19/1/2009 Expiry Date: 31/3/2015 Issue No: 1 Version Start Date: 19/1/2009 Version End Date:
Not shown	1658	S	384378 397733	Status: Historical Licence No: NW/069/0006/001 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: Boreholes At Origin Developments, Manchester Data Type: Point Name: West Contracting	Annual Volume (m^3): 139128 Max Daily Volume (m^3): 1010 Original Application No: 7623 Original Start Date: 19/1/2009 Expiry Date: 31/3/2015 Issue No: 1 Version Start Date: 19/1/2009 Version End Date:
Not shown	1659	SW	383335 398310	Status: Historical Licence No: 2569007089 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: 2 Boreholes At Gartside Street Manchester Data Type: Line Name: HER MAJESTY'S COURT SERVICE	Annual Volume (m^3): 200000 Max Daily Volume (m^3): 1179 Original Application No: 7546 Original Start Date: 26/1/2005 Expiry Date: 31/3/2011 Issue No: 2 Version Start Date: 10/7/2008 Version End Date:
Not shown	1899	E	386550 399790	Status: Historical Licence No: 2569005061 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "borehole At Norton Street, Miles Platting, Manchester" Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: S7459 Original Start Date: 8/2/2000 Expiry Date: - Issue No: 2 Version Start Date: 1/7/2000 Version End Date:
Not shown	1899	E	386550 399790	Status: Active Licence No: 2569005061 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: Borehole At Norton Street, Miles Platting, Manchester Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LIMITED	Annual Volume (m^3): 33000 Max Daily Volume (m^3): 125 Original Application No: NPS/WR/011609 Original Start Date: 8/2/2000 Expiry Date: - Issue No: 3 Version Start Date: 13/8/2012 Version End Date:
Not shown	1934	S	385240 397540	Status: Historical Licence No: 2569006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Borehole At Premises, Broadie St, Ardwick, Manchester Data Type: Point Name: MOSELEY RUBBER CO LTD	Annual Volume (m^3): 331858 Max Daily Volume (m^3): 909.2 Original Application No: 0006 Original Start Date: 8/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 8/2/1966 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1934	S	385240 397540	Status: Historical Licence No: 2569006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "borehole At Premises, Broadie St, Ardwick, Manchester" Data Type: Point Name: MOSELEY RUBBER CO LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 6 Original Start Date: 8/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 8/2/1966 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details	
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole (no 1) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole (no 1) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	744	W	383850 399250	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 1 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
4	757	NW	383900 399800	Status: Historical Licence No: 2569004021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Premises, Derby Street, Cheetham, Manchester Data Type: Point Name: LANCASHIRE DAIRIES LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 1749 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 3 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 3 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole (no 3) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	771	W	383830 399220	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole (no 3) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 2 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole Number 2 At Premises Strangeways Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole (no 2) At Premises, Strangeways, Manchester" Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	790	W	383820 399190	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole (no 2) At Premises, Strangeways, Manchester Data Type: Point Name: INTERBREW UK LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: CW0023R Original Start Date: 18/2/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Major Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
16A	496	NE	384900 399910	River Name: Irk Reach: Moston Bk. To Irwell End/Start of Stretch: Start of Stretch NGR	E	E	E	E	E
17A	496	NE	384900 399910	River Name: Moston Bk Reach: Qsl At Hale Lane Failsworth To Irk End/Start of Stretch: End of Stretch NGR	F	F	F	F	E
18A	496	NE	384900 399910	River Name: Irk Reach: Wince Brook To Moston Bk. End/Start of Stretch: End of Stretch NGR	E	E	E	E	E
Not shown	936	SW	383800 398900	River Name: Irk Reach: Moston Bk. To Irwell End/Start of Stretch: End of Stretch NGR	E	E	E	E	E

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

					Chemical Quality Grade				
ID	Distance (m)	Direction	NGR	River Quality Grade	2005	2006	2007	2008	2009
20	161	SW	384445 399335	River Name: Irk Reach: Moston Bk. To Irwell End/Start of Stretch: Sample Point NGR	C	C	C	C	D
21A	496	NE	384900 399910	River Name: Irk Reach: Moston Bk. To Irwell End/Start of Stretch: Start of Stretch NGR	C	C	C	C	D
22A	496	NE	384900 399910	River Name: Irk Reach: Wince Brook To Moston Bk. End/Start of Stretch: End of Stretch NGR	C	C	C	C	C
Not shown	936	SW	383800 398900	River Name: Irk Reach: Moston Bk. To Irwell End/Start of Stretch: End of Stretch NGR	C	C	C	C	D
Not shown	979	S	384950 398450	River Name: Rochdale Canal Reach: Empress Processing To Ashton Canal End/Start of Stretch: Start of Stretch NGR	A	A	A	A	A
Not shown	979	S	384950 398450	River Name: Rochdale Canal Reach: Qsl At Summit To Empress Processing End/Start of Stretch: End of Stretch NGR	A	A	A	A	A
Not shown	1199	S	384850 398200	River Name: Rochdale Canal Reach: Empress Processing To Ashton Canal End/Start of Stretch: End of Stretch NGR	A	A	A	A	A
Not shown	1255	S	384830 398140	River Name: Rochdale Canal Reach: Ashton Canal To Knott Mill End/Start of Stretch: Start of Stretch NGR	A	A	A	A	A

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details	
1	44	NW	River Name: River Irk Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
2	328	SW	River Name: River Irk Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
3	423	SW	River Name: River Irk Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
4	478	NE	River Name: Moss Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
5	478	NE	River Name: River Irk Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

6.11 Surface Water Features

Are there any surface water features within 250m of the study site? Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
38	NW
122	NE
159	SW

7a. Environment Agency Flood Map for Planning (from rivers and the sea)



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Site Outline

100
250
Search Buffers (m)

Zone 2 Floodplain

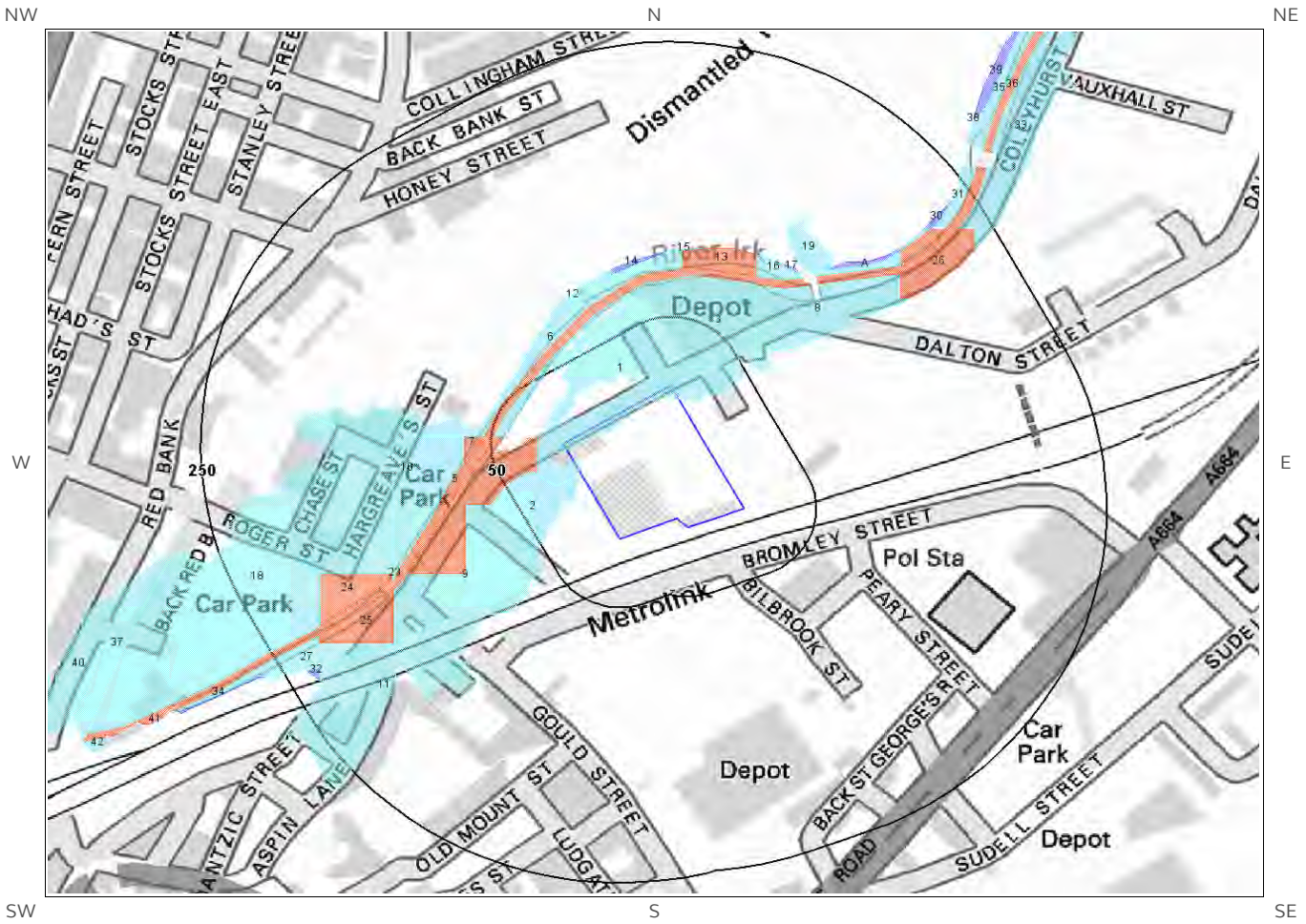
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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Site Outline

100
250
Search Buffers (m)

RoFRaS Rating

- Very Low
- Low
- Medium
- High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? Yes

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	0	On Site	18-Nov-2015	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	17	SW	18-Nov-2015	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Low (greater than 1 in 1000 but less than 1 in 100) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRas flood Risk
1	0.0	On Site	Low
2	2.0	SW	Low

3	16.0	NE	Low
4	18.0	W	High
5	45.0	NW	High

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

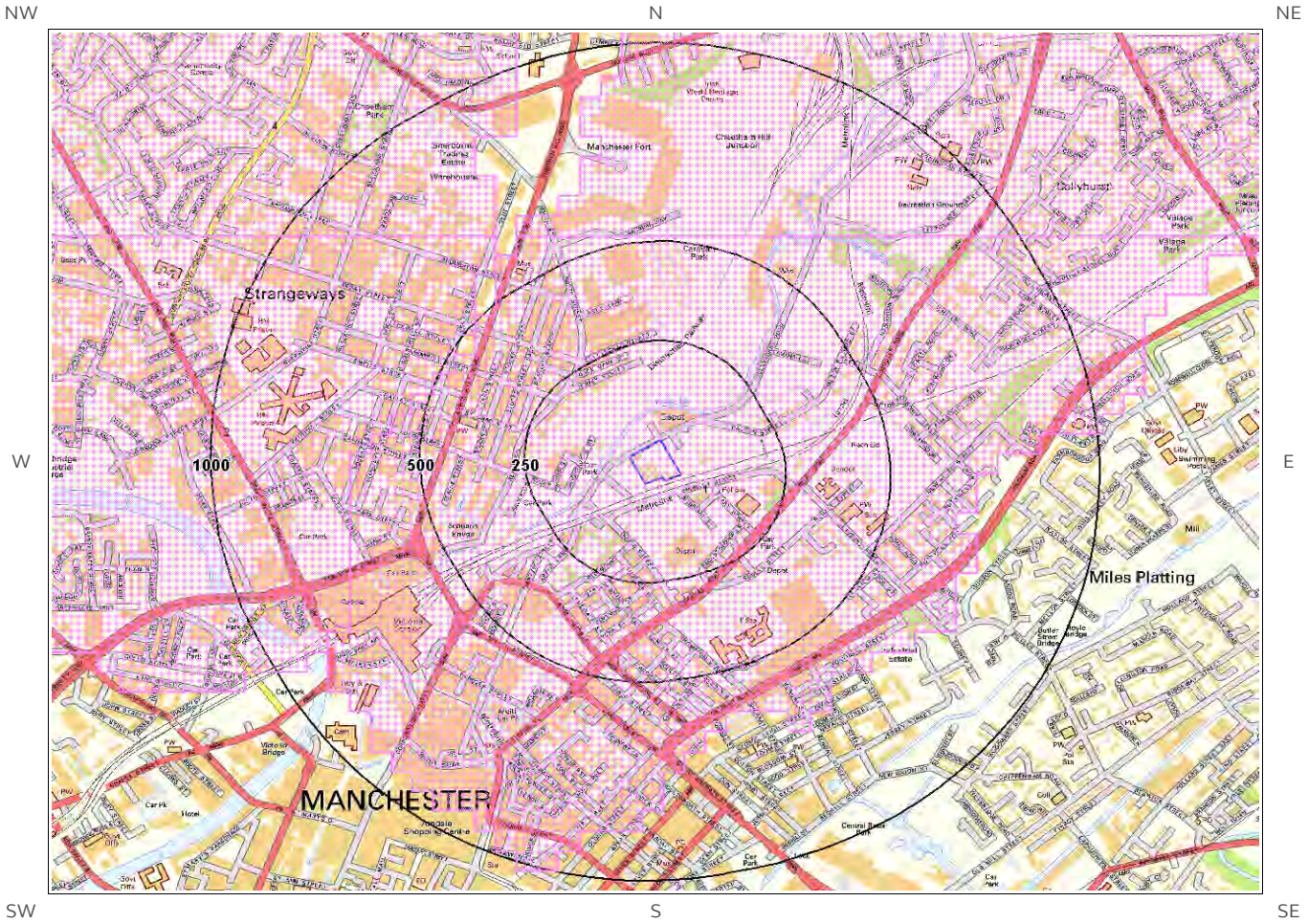
7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result?	Moderate

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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Site Outline

100
250
Search Buffers (m)

AONB
National Park
SSSI
Special Protection Areas
Nitrate Vulnerable Zones

Green Belt
Environmentally Sensitive Areas
Special Areas of Conservation
World Heritage Sites
Nitrate Sensitive Areas

Ancient Woodland
National Nature Reserve
Local Nature Reserves
Ramsar Sites

8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?	Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

4

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
1	0	On Site	Existing	DEFRA
2	466	NW	Existing	DEFRA
3	514	N	Existing	DEFRA
4	641	NW	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure GeoInsight, available from our website. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell*[*] hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? No

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

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Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.
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This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

I**n these terms and conditions unless the context otherwise requires:**

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with Groundsure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to Groundsure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"Groundsure" means Groundsure Limited, a company registered in England and Wales under number 03421028.

"Groundsure Materials" means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

"Services" means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested Groundsure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1Groundsure shall charge and the Client shall pay fees at the rate and

frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. **© Groundsure Limited June 2013**

Hydrock Consultants Ltd

4 Lakeside, Festival Way,
Stoke-on-Trent, ST1 5RY

Report Reference: HYD-2605570

Your Reference: C151819-S15438

Report Date 24 Nov 2015

Report Delivery Method: Email - pdf

Groundsure Geoinsight

Address: DANTZIC STREET, MANCHESTER,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geoinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 01752 347 515 quoting the above report reference number.

Yours faithfully,

Hydrock

Enc.
Groundsure Geoinsight

Groundsure Geoinsight

Address:	**DANTZIC STREET, MANCHESTER,**
Date:	**24 Nov 2015**
Reference:	**HYD-2605570**
Client:	**Hydrock Consultants Ltd**

NW N NE

W E



SW S SE

Aerial Photograph Capture date:	02-Jun-2009
Grid Reference:	384628,399426
Site Size:	0.77ha

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Overview of Findings

The Groundsure Geoinsight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology		
1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	1	26	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	10	0
2.3 Current Ground Workings	0	0	0	1	13

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	1	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	1	0	0	2	3
3.4 Non-Coal Mining	0	0	0	0	1
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Very Low
4.2 Landslides	Very Low
4.3 Ground Dissolution of Soluble Rocks	Negligible
4.4 Compressible Deposits	Very Low
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Very Low

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	0	2	28

Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	2	7	13

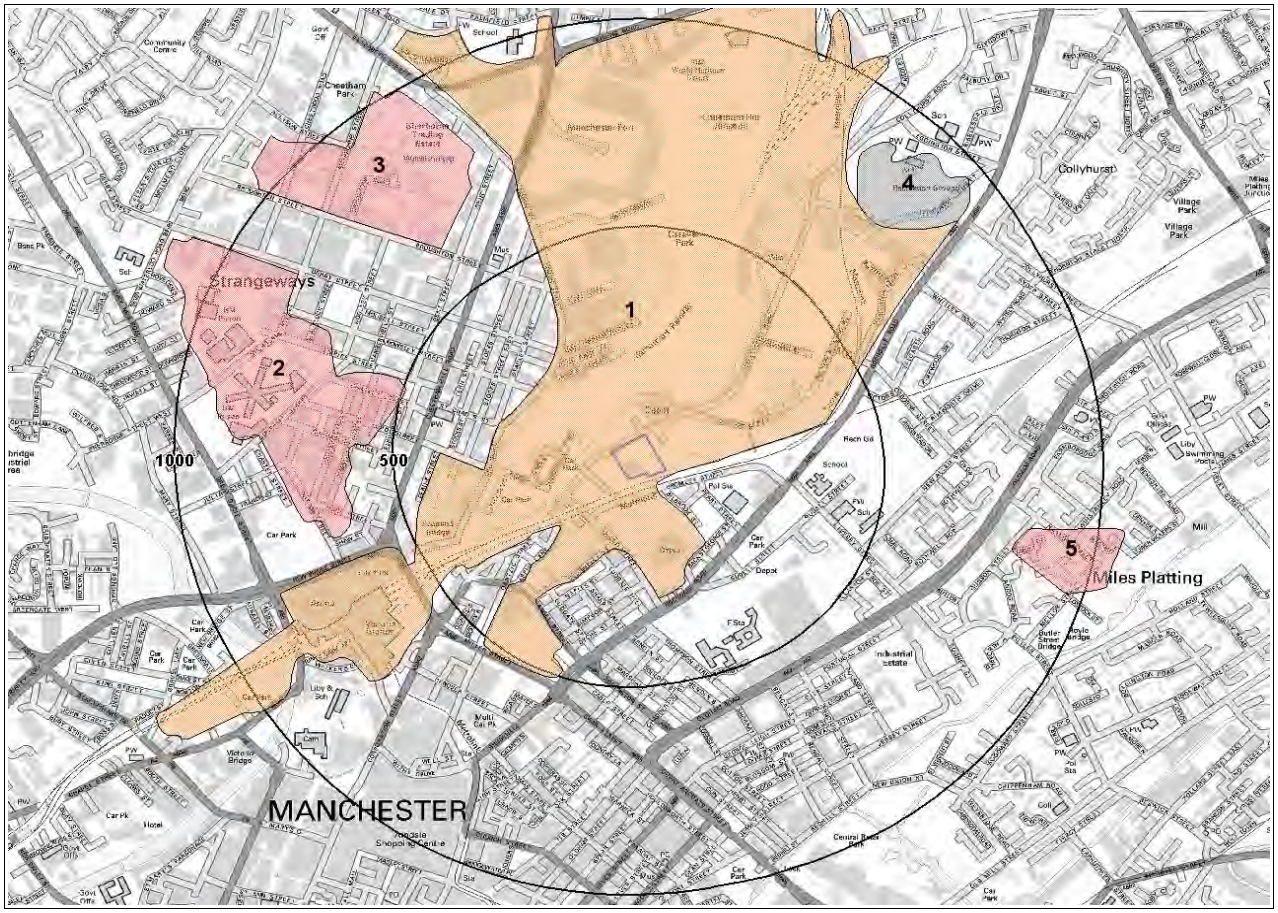
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.1 Tunnels	0	0	0	Not Searched
7.2 Historical Railway and Tunnel Features	5	21	77	Not Searched
7.3 Historical Railways	0	0	1	Not Searched
7.4 Active Railways	0	10	2	Not Searched

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

1 Geology

1.1 Artificial Ground Map

NW N NE



W E

SW S SE

Artificial Ground Legend

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Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Worked Ground (undivided)

Infilled Ground

Disturbed Ground (undivided)

Landscaped Ground (undivided)

Reclaimed Ground

1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:085

Are there any records of Artificial/Made Ground within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	494.0	W	WMGR-MGRD	INFILLED GROUND	ARTIFICIAL DEPOSIT

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Very High	Low

1.2 Superficial Deposits and Landslips Map

NW N NE

W E

SW S SE



Superficial Deposits and Landslips Legend

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Site Outline

500
1000
Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1A	0.0	On Site	TILLD	TILL, DEVENSIAN	DIAMICTON
3A	0.0	On Site	TILLD	TILL, DEVENSIAN	DIAMICTON
2B	89.0	NW	TILLD	TILL, DEVENSIAN	DIAMICTON
4B	89.0	NW	TILLD	TILL, DEVENSIAN	DIAMICTON

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	High	Low

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site* boundary? No

Database searched and no data found.

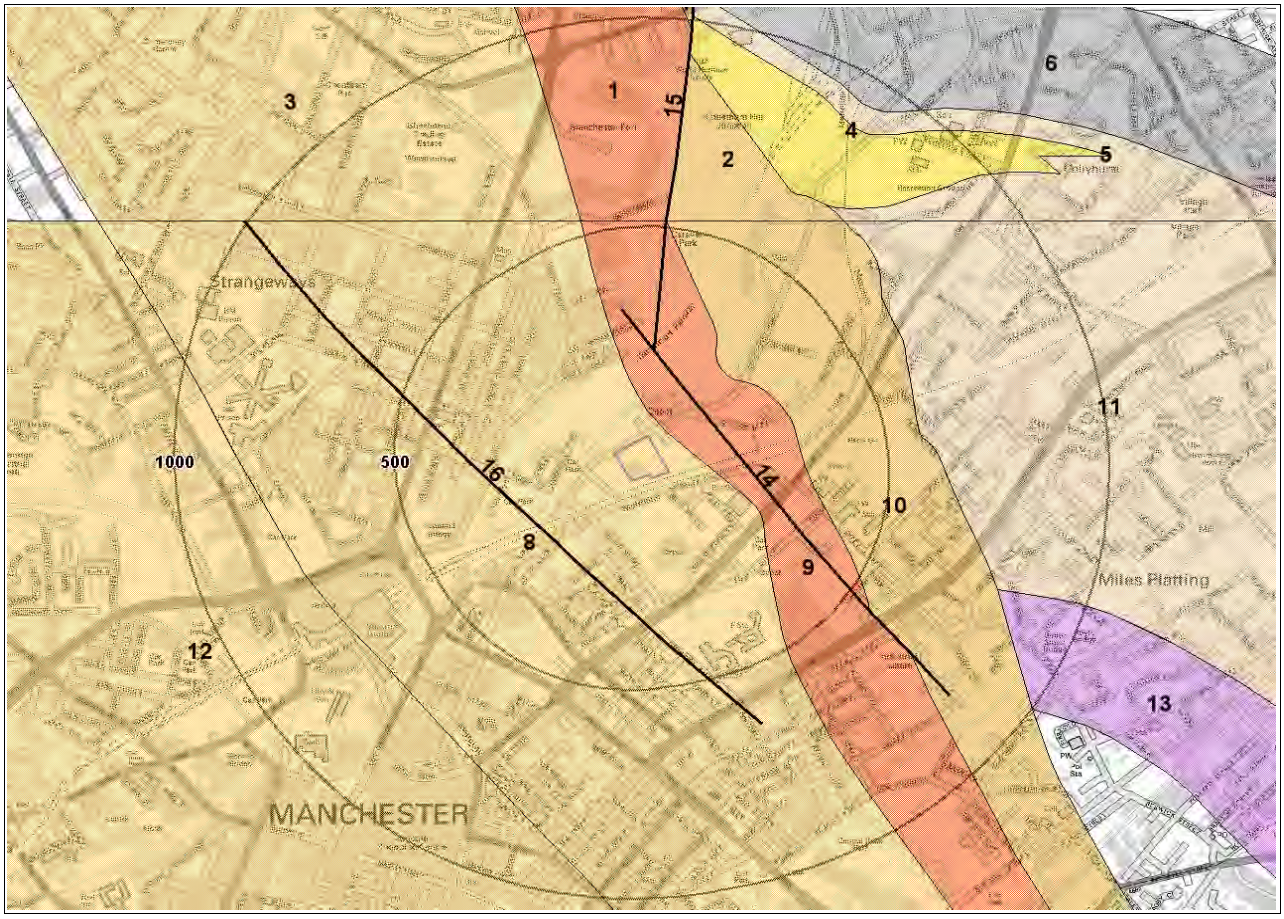
* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map

NW N NE

W E

SW S SE



Bedrock and Faults Legend

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Site Outline

500
1000
Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:085

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
8	0.0	On Site	CPB-SDST	Chester Pebble Beds Formation - Sandstone	No Details
9	38.0	NE	MM-MDST	Manchester Marls Formation - Mudstone	No Details
10	230.0	NE	CS-SDST	Collyhurst Sandstone Formation - Sandstone	No Details

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	High	Moderate
38.0	NE	Fracture	Low	Low

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
14	135.0	NE	FAULT	Fault, inferred, crossmark on downthrow side, throw in metres
15	204.0	N	FAULT	Fault, inferred, crossmark on downthrow side, throw in metres
16	225.0	SW	FAULT	Fault, inferred, crossmark on downthrow side, throw in metres

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

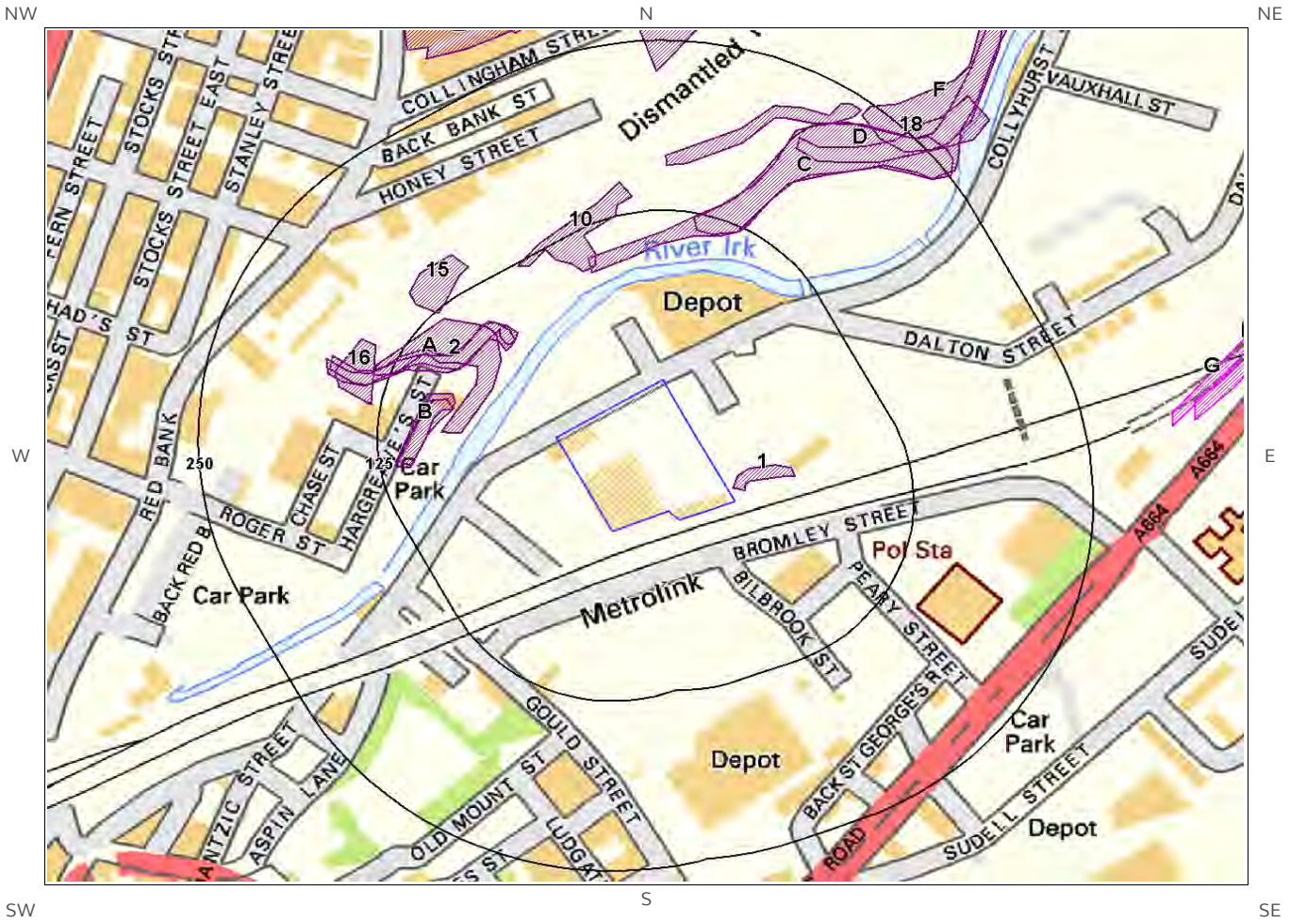
---

1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

---

2 Ground Workings Map



Ground Workings Legend

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Site Outline

125
250
Search Buffers (m)

Historic Surface Ground Workings

Historic Underground Workings

Current Ground Workings

2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1	4.0	NE	384712 399414	Unspecified Ground Workings	1956
2	57.0	NW	384519 399489	Unspecified Ground Workings	1921
3A	73.0	NW	384503 399505	Unspecified Ground Workings	1994
4A	73.0	NW	384503 399505	Unspecified Ground Workings	1988
5B	75.0	W	384477 399450	Refuse Heap	1933
6B	75.0	W	384475 399447	Refuse Heap	1938
7A	76.0	NW	384475 399506	Unspecified Ground Workings	1956
8C	92.0	N	384717 399620	Unspecified Ground Workings	1994
9C	92.0	N	384717 399620	Unspecified Ground Workings	1988
10	96.0	NW	384581 399599	Unspecified Ground Workings	1891
11D	113.0	N	384847 399680	Unspecified Ground Workings	1978
12D	113.0	N	384847 399680	Unspecified Ground Workings	1985
13D	113.0	N	384847 399680	Unspecified Ground Workings	1956
14D	113.0	N	384847 399680	Unspecified Ground Workings	1971
15	123.0	NW	384486 399557	Pond	1891
16	132.0	W	384428 399492	Pond	1889
17	158.0	N	384695 399667	Unspecified Ground Workings	1891
18	193.0	NE	384840 399671	Unspecified Ground Workings	1891
19E	227.0	N	384735 400147	Unspecified Ground Workings	1921
20E	227.0	N	384735 400147	Unspecified Ground Workings	1933

ID	Distance (m)	Direction	NGR	Use	Date
21E	227.0	N	384735 400147	Unspecified Ground Workings	1906
22E	227.0	N	384735 400147	Brick Works	1933
23E	227.0	N	384735 400147	Brick Works	1906
24E	227.0	N	384735 400147	Brick Works	1938
25E	227.0	N	384735 400147	Brick Works	1921
26F	234.0	NE	384853 399704	Unspecified Ground Workings	1933
27F	234.0	NE	384853 399704	Unspecified Heap	1938

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
28G	311.0	E	385116 399612	Tunnel	1968
29G	311.0	E	385116 399612	Tunnel	1956
30G	311.0	E	385116 399612	Tunnel	1978
31G	327.0	E	385125 399609	Tunnel	1985
32G	327.0	E	385125 399609	Tunnel	1991
33H	373.0	E	385122 399641	Tunnel	1923
34H	373.0	E	385122 399641	Tunnel	1938
35H	373.0	E	385122 399641	Tunnel	1933
36H	373.0	E	385122 399641	Tunnel	1921
37H	373.0	E	385122 399641	Tunnel	1906

2.3 Current Ground Workings

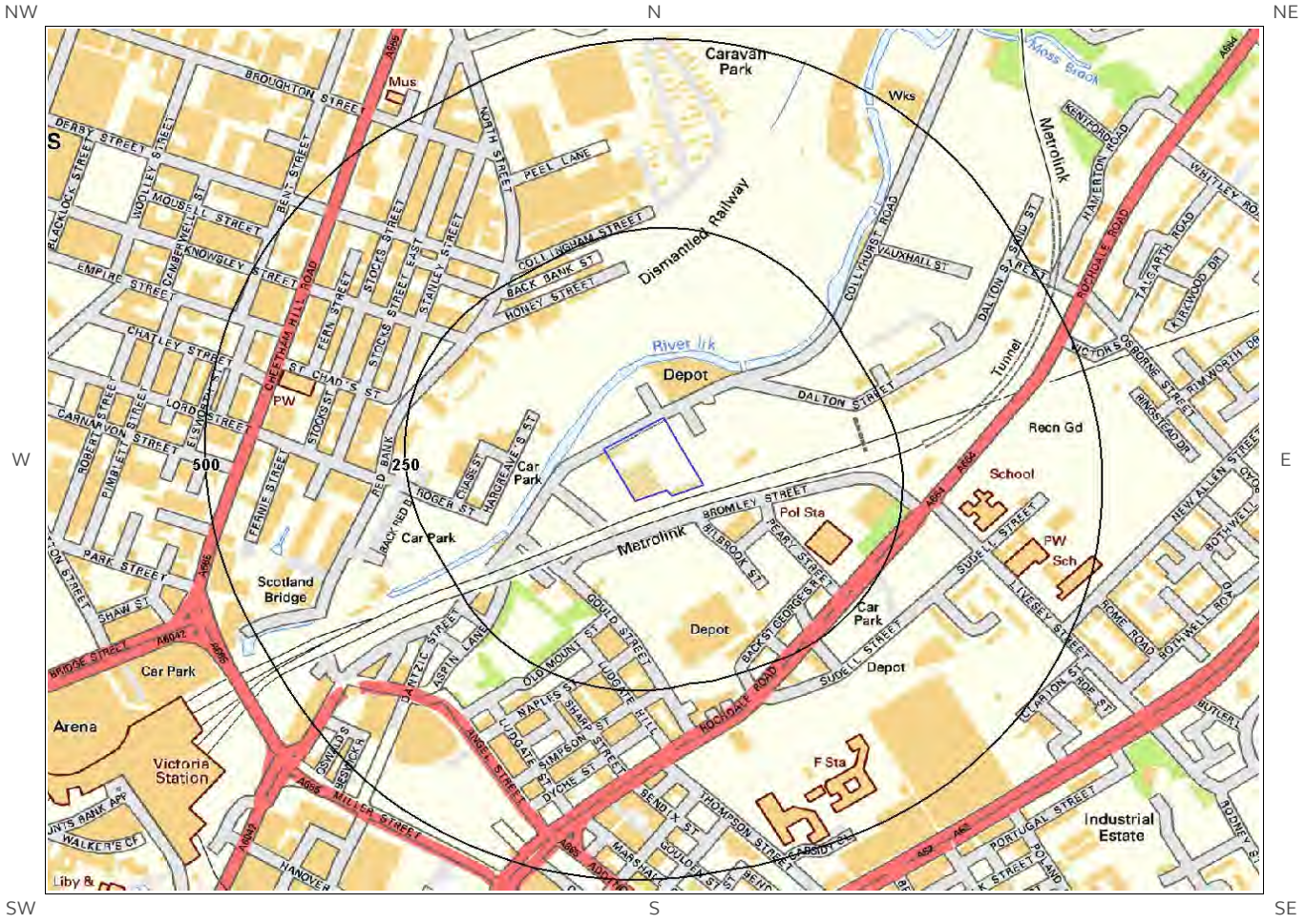
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

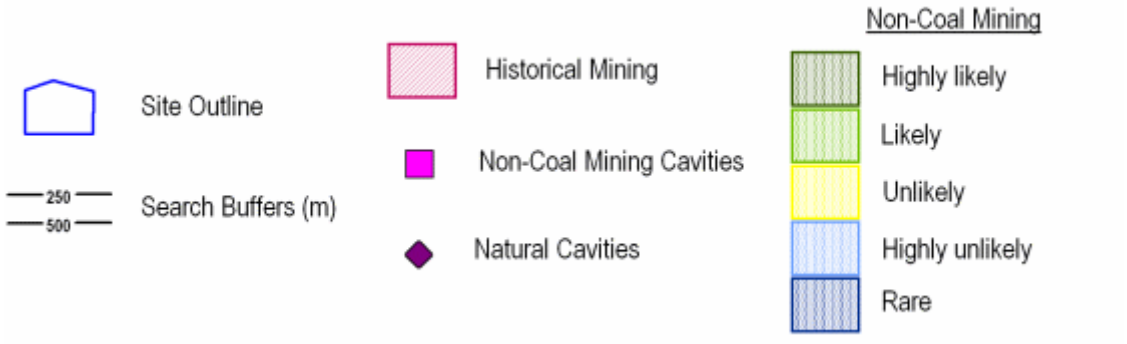
ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	475.0	N	384675 399960	Clay & Shale	North Street Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	511.0	NE	385005 399845	Sandstone	Collyhurst	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	624.0	NE	385100 399910	Sand	Red Sand Delph	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	660.0	NE	385300 399655	Coal, Deep	St George's Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	667.0	NE	385290 399692	Coal, Deep	St Georges Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	675.0	W	383894 399487	Clay & Shale	Strangeways Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	692.0	N	384800 400160	Clay & Shale	Ellison's Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	801.0	NE	385215 400045	Clay & Shale	Collyhurst Road Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	808.0	NW	384125 400120	Clay & Shale	Broughton Street Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	810.0	N	384690 400295	Clay & Shale	Queens Road Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	825.0	NE	385420 399785	Clay & Shale	Collyhurst Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	889.0	NE	385255 400130	Sandstone	Collyhurst	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	915.0	W	383700 399735	Clay & Shale	Sherborne Street Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	922.0	N	384821 400390	Clay & Shale	Baronhill Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? Yes

The following information provided by JPB is not represented on mapping: In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Further details and a quote for services can be obtained by emailing this report to enquiries.gs@jpb.co.uk.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
Not shown	801.0	SE	Not available	Vein Mineral	Occasional minor mining may have occurred but of restricted extent.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

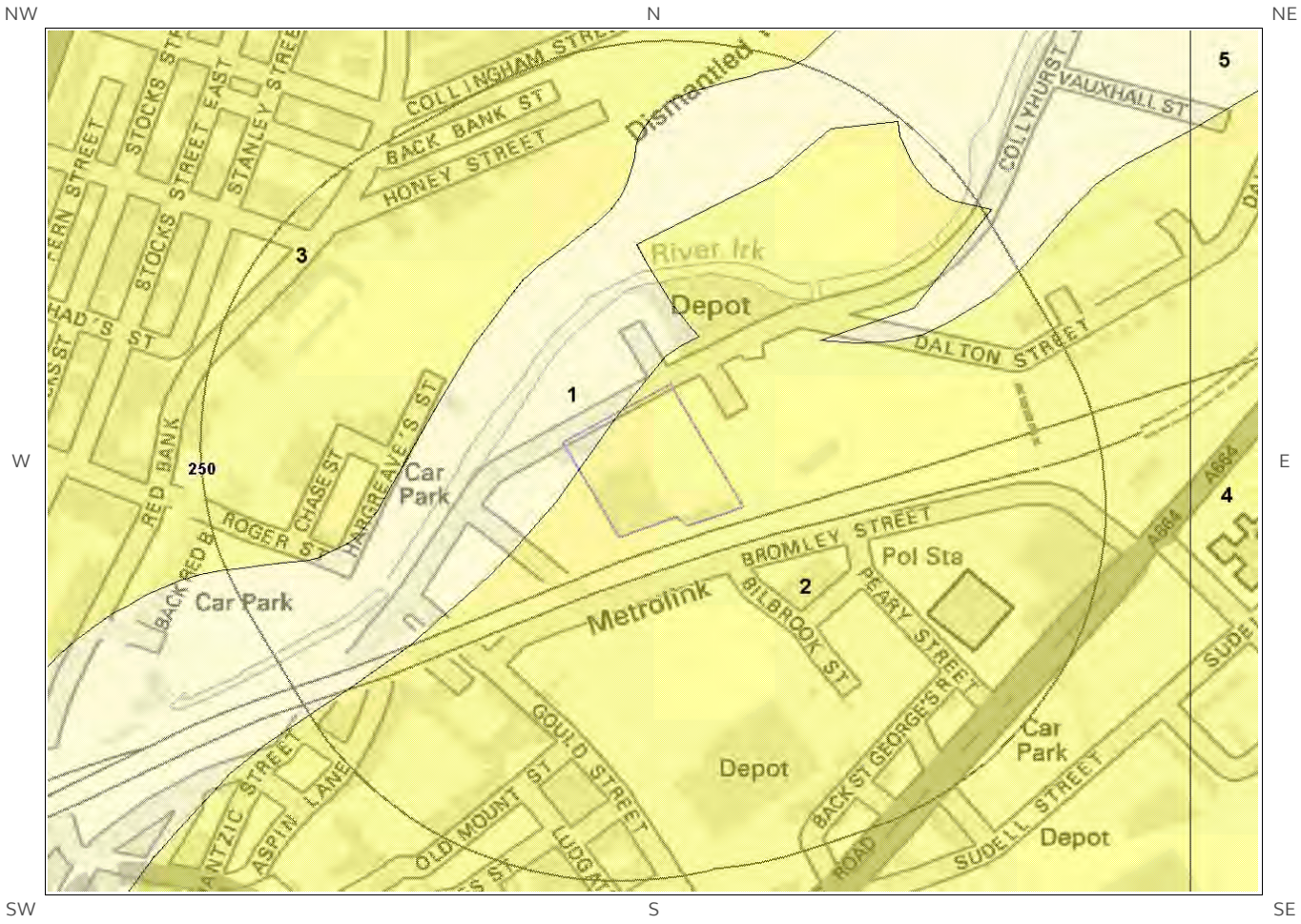
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map

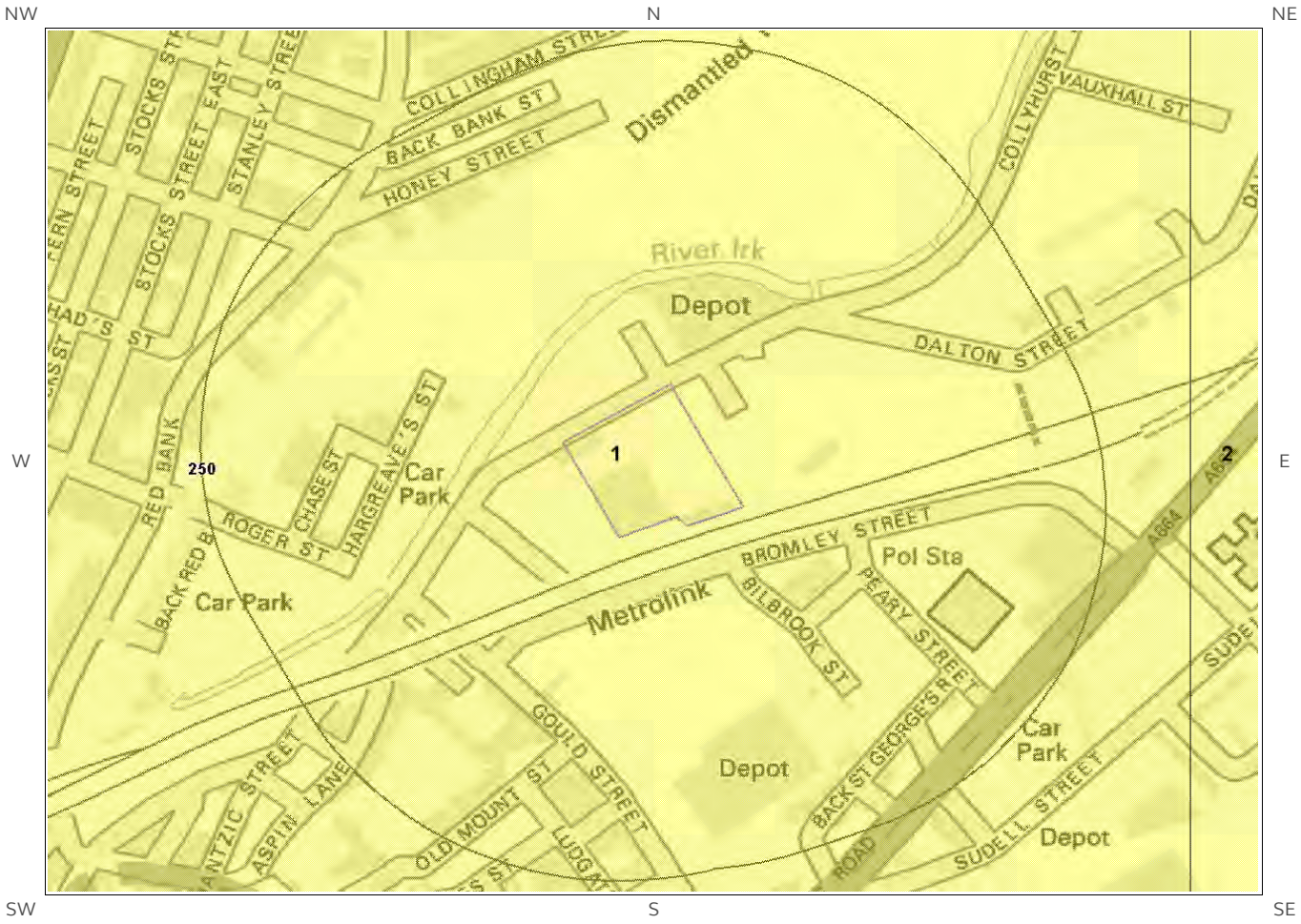


Shrink Swell Clay Legend

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4.2 Landslides Map

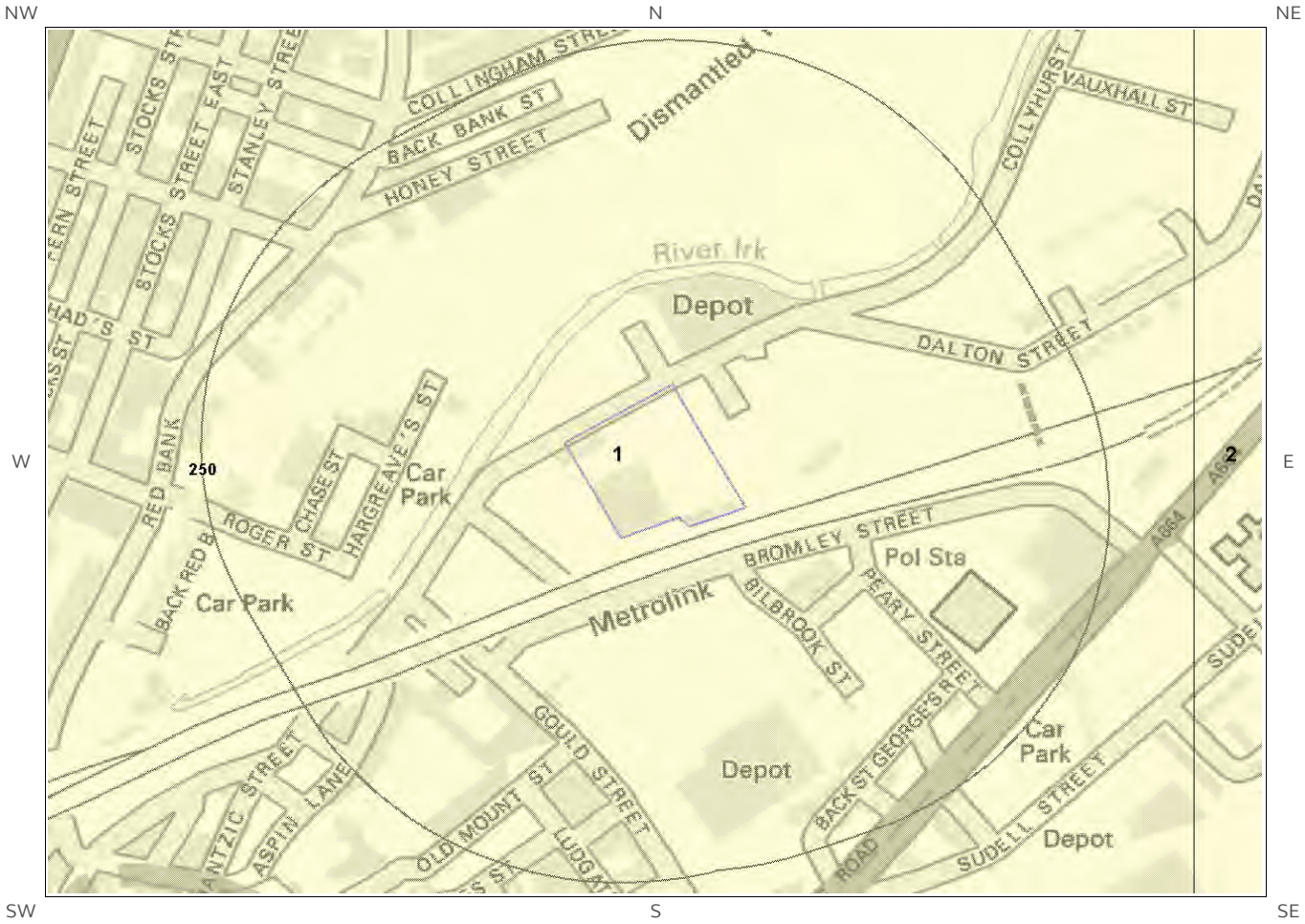


Landslides Legend

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4.3 Ground Dissolution Soluble Rocks Map

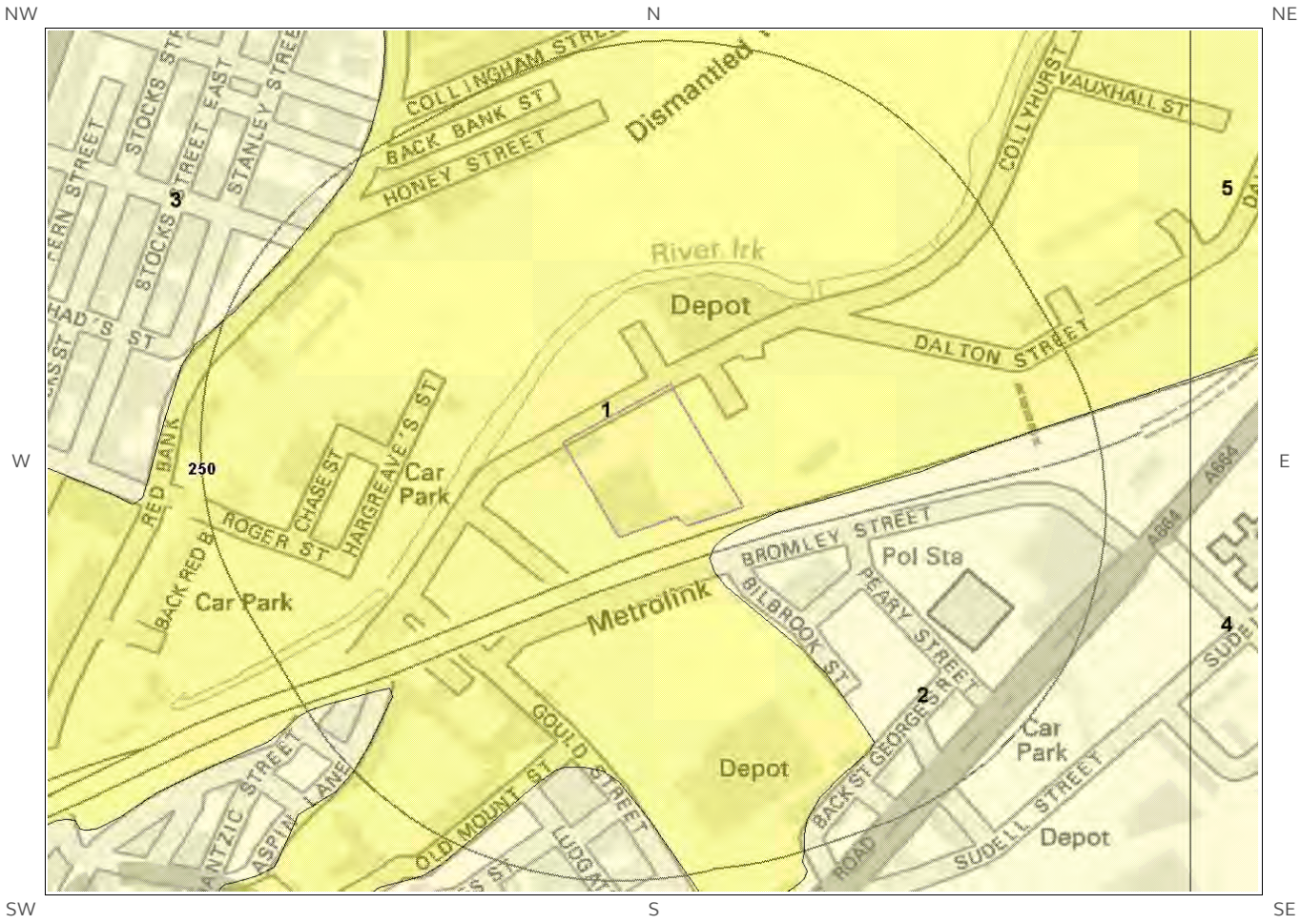


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Ground Dissolution Soluble Rocks Legend



4.4 Compressible Deposits Map

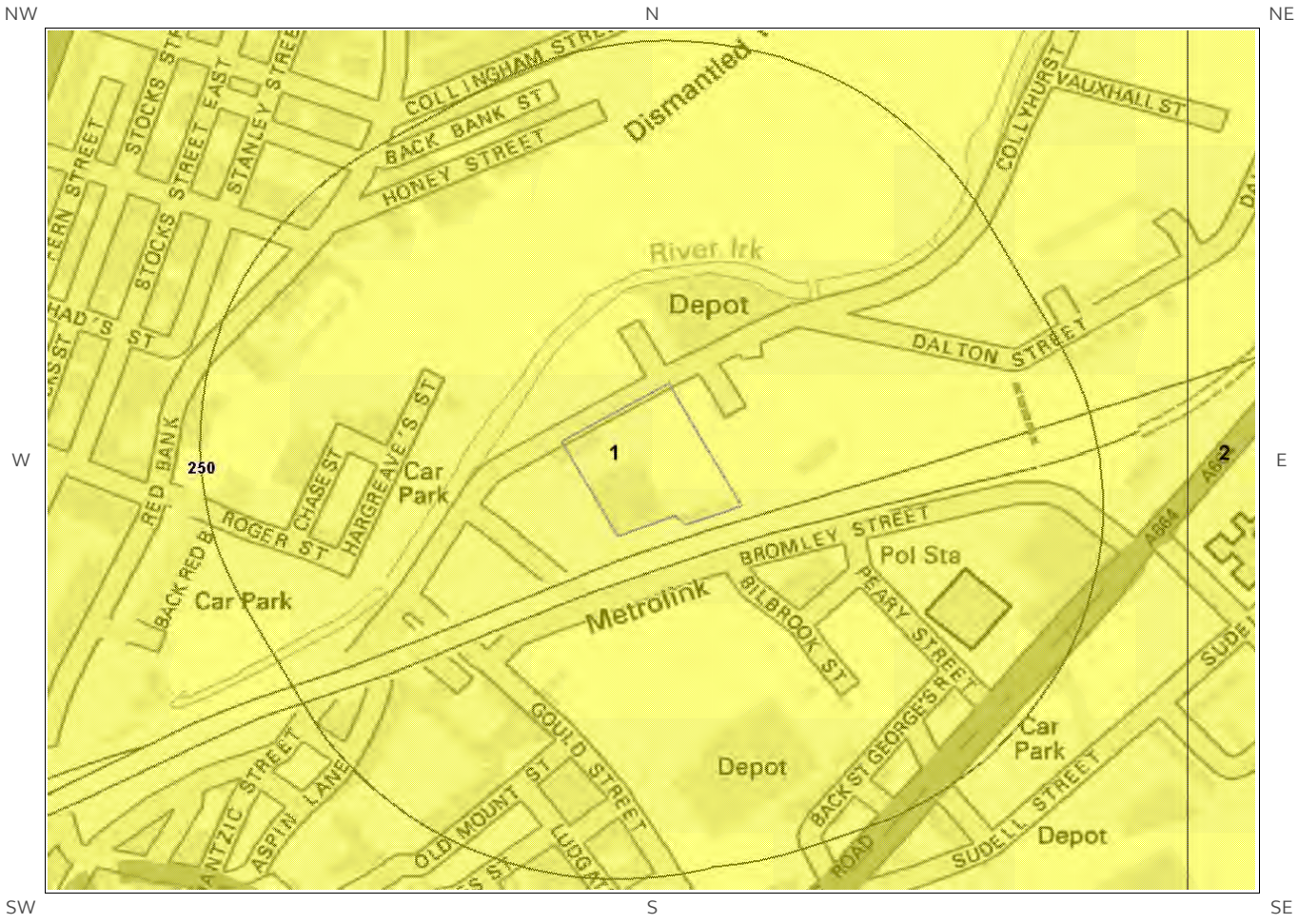


Compressible Deposits Legend

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4.5 Collapsible Deposits Map

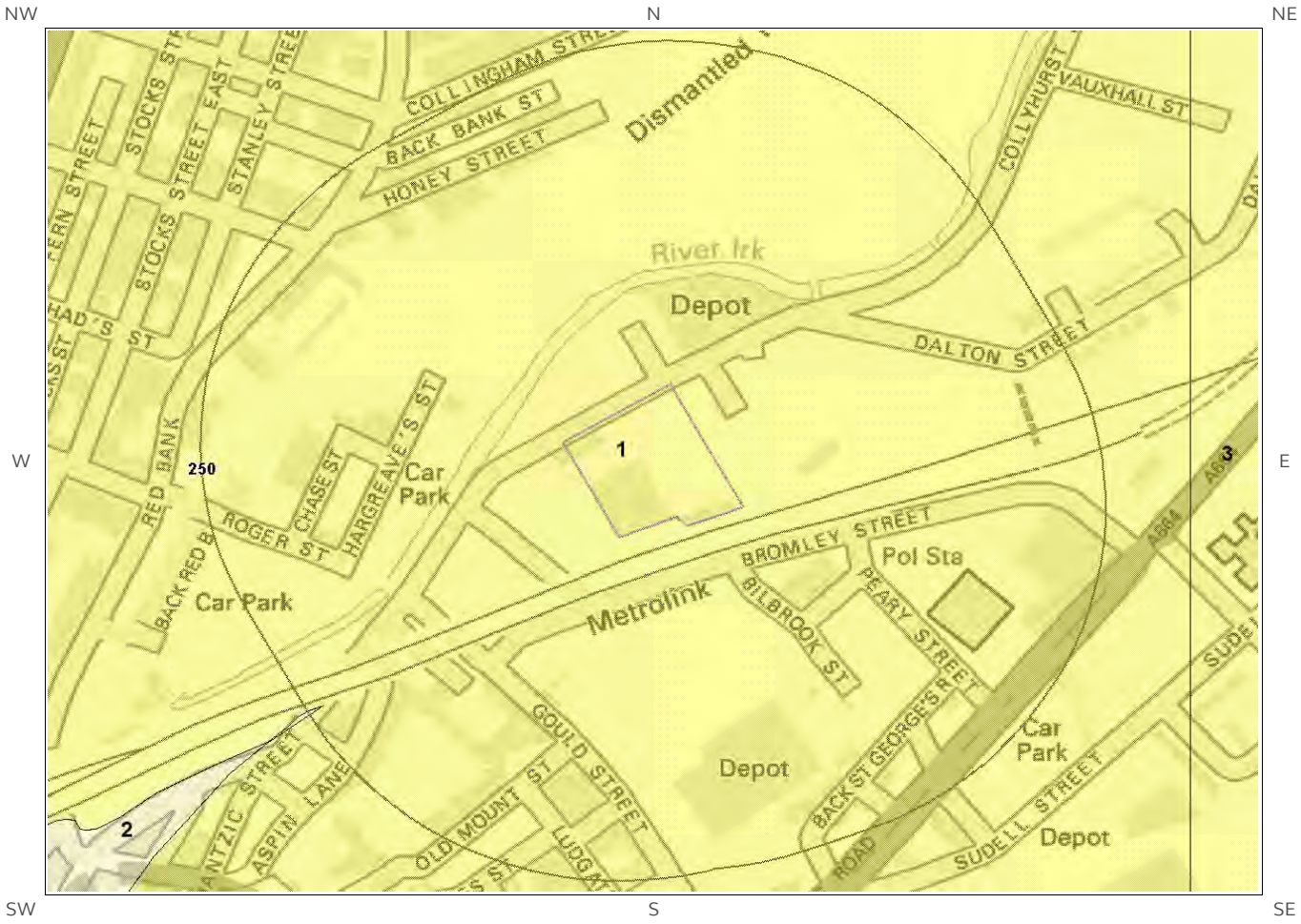


Collapsible Deposits Legend

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4.6 Running Sand Map



Running Sand Legend

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4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site*[*] boundary? Very Low

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This includes an automatically generated 50m buffer zone around the site

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for compressible ground to be present. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.
2	13.0	SE	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.

4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

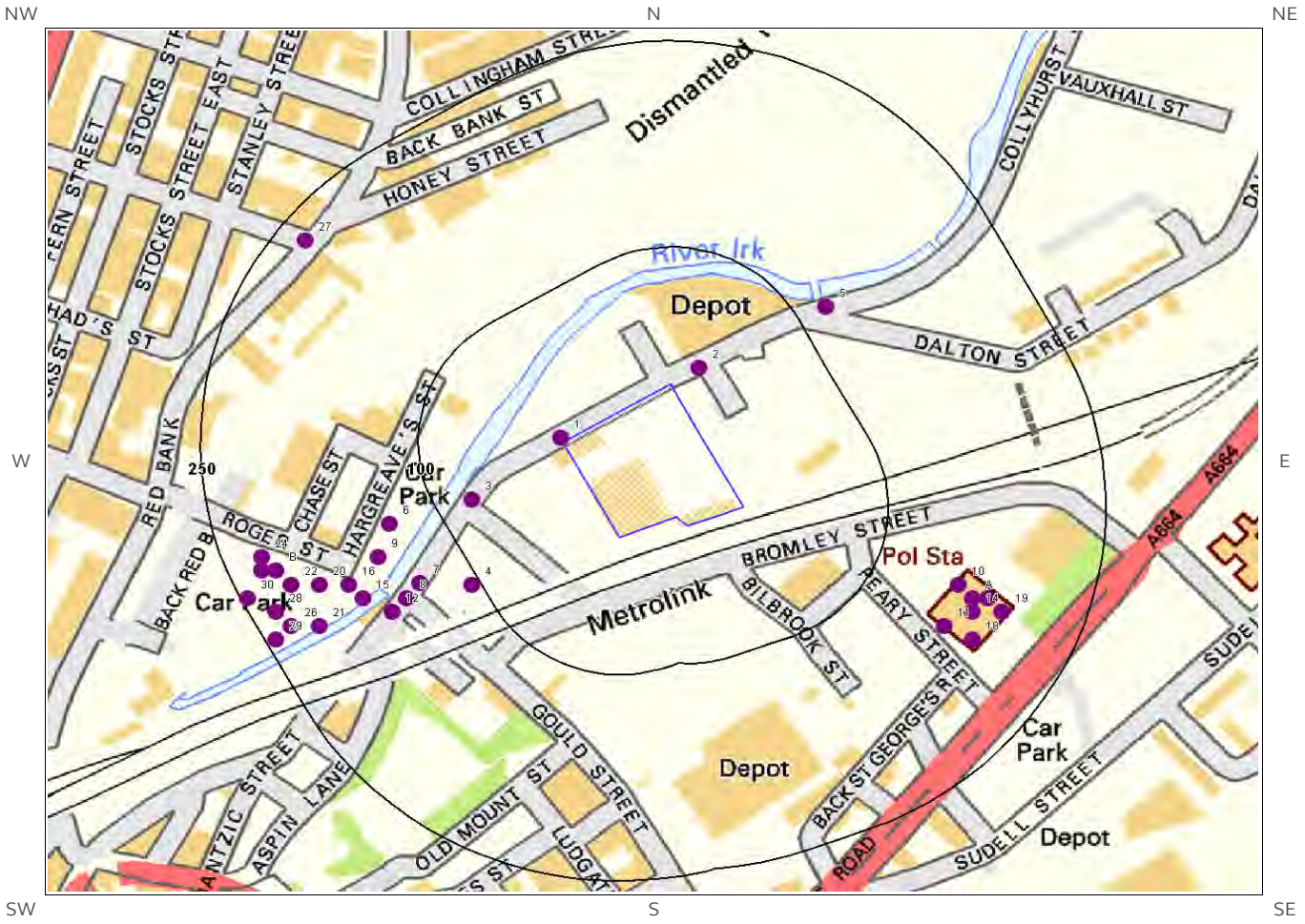
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

5 Borehole Records Map



Borehole Records Legend

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Site Outline

Borehole Locations

125
250
Search Buffers (m)

5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary: 30

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	4.0	NW	384566 399447	SJ89NW35	6.1	MANCHESTER CORP. B.SEWER
2	22.0	NE	384661 399498	SJ89NW36	6.1	MANCHESTER CORP. B.SEWER
3	76.0	SW	384505 399402	SJ89NW34	4.88	MANCHESTER CORP. B.SEWER
4	106.0	SW	384505 399340	SJ89NW32	5.03	MANCHESTER CORP. NEWTOWN
5	121.0	NE	384749 399542	SJ89NW37	5.18	MANCHESTER CORP. B.SEWER
6	134.0	SW	384448 399384	SJ89NW203	28.35	CLARLES SMITH RED BANK
7	137.0	SW	384469 399341	SJ89NW33	5.18	MANCHESTER CORP. B.SEWER
8	150.0	SW	384460 399330	SJ89NW2902	6.55	NEW ROGER STREET BRIDGE 3
9	153.0	SW	384440 399360	SJ89NW2900	7.54	NEW ROGER STREET BRIDGE 1
10	159.0	E	384840 399340	SJ89NW3701	14.25	MANCHESTER - LIMER STREET 4
11	163.0	SE	384830 399310	SJ89NW3698	15.01	MANCHESTER - LIMER STREET 1
12	164.0	SW	384450 399320	SJ89NW2903	7.75	NEW ROGER STREET BRIDGE 4
13A	172.0	SE	384850 399330	SJ89NW3702	14.86	MANCHESTER - LIMER STREET 5
14	176.0	SE	384850 399320	SJ89NW3700	14.86	MANCHESTER - LIMER STREET 3
15	176.0	SW	384430 399330	SJ89NW2901	6.3	NEW ROGER STREET BRIDGE 2
16	180.0	SW	384420 399340	SJ89NW1635	-1.0	ROGER STREET MANCHESTER 7
17A	181.0	E	384860 399330	SJ89NW3703	15.24	MANCHESTER - LIMER STREET 6
18	185.0	SE	384850 399300	SJ89NW3699	14.93	MANCHESTER - LIMER STREET 2
19	194.0	SE	384870 399320	SJ89NW3704	13.56	MANCHESTER - LIMER STREET 7
20	197.0	SW	384400 399340	SJ89NW1637	-1.0	ROGER STREET MANCHESTER TP 2
21	212.0	SW	384400 399310	SJ89NW1644	-1.0	ROGER STREET MANCHESTER TP 9
22	215.0	SW	384380 399340	SJ89NW1633	-1.0	ROGER STREET MANCHESTER 5

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
23B	219.0	SW	384370 399350	SJ89NW1645	-1.0	ROGER STREET MANCHESTER TP 10
24	224.0	W	384360 399360	SJ89NW1642	-1.0	ROGER STREET MANCHESTER TP 7
25B	228.0	SW	384360 399350	SJ89NW1646	-1.0	ROGER STREET MANCHESTER TP 11
26	230.0	SW	384380 399310	SJ89NW1636	-1.0	ROGER STREET MANCHESTER TP 1
27	230.0	NW	384390 399590	SJ89NW1542	-1.0	RED BANK CATCHMENT 12
28	233.0	SW	384370 399320	SJ89NW1651	-1.0	ROGER STREET MANCHESTER TP 16
29	243.0	SW	384370 399300	SJ89NW1634	-1.0	ROGER STREET MANCHESTER 6
30	246.0	SW	384350 399330	SJ89NW1647	-1.0	ROGER STREET MANCHESTER TP 12

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/1042177
#2: scans.bgs.ac.uk/sobi_scans/boreholes/1042178
#3: scans.bgs.ac.uk/sobi_scans/boreholes/1042176
#4: scans.bgs.ac.uk/sobi_scans/boreholes/1042174
#5: scans.bgs.ac.uk/sobi_scans/boreholes/1042179
#6: scans.bgs.ac.uk/sobi_scans/boreholes/1042346
#7: scans.bgs.ac.uk/sobi_scans/boreholes/1042175
#8: scans.bgs.ac.uk/sobi_scans/boreholes/1045096
#9: scans.bgs.ac.uk/sobi_scans/boreholes/1045094
#10: scans.bgs.ac.uk/sobi_scans/boreholes/12826235
#11: scans.bgs.ac.uk/sobi_scans/boreholes/12826232
#12: scans.bgs.ac.uk/sobi_scans/boreholes/1045097
#13A: scans.bgs.ac.uk/sobi_scans/boreholes/12826236
#14: scans.bgs.ac.uk/sobi_scans/boreholes/12826234
#15: scans.bgs.ac.uk/sobi_scans/boreholes/1045095
#17A: scans.bgs.ac.uk/sobi_scans/boreholes/12826237
#18: scans.bgs.ac.uk/sobi_scans/boreholes/12826233
#19: scans.bgs.ac.uk/sobi_scans/boreholes/12826238

6 Estimated Background Soil Chemistry

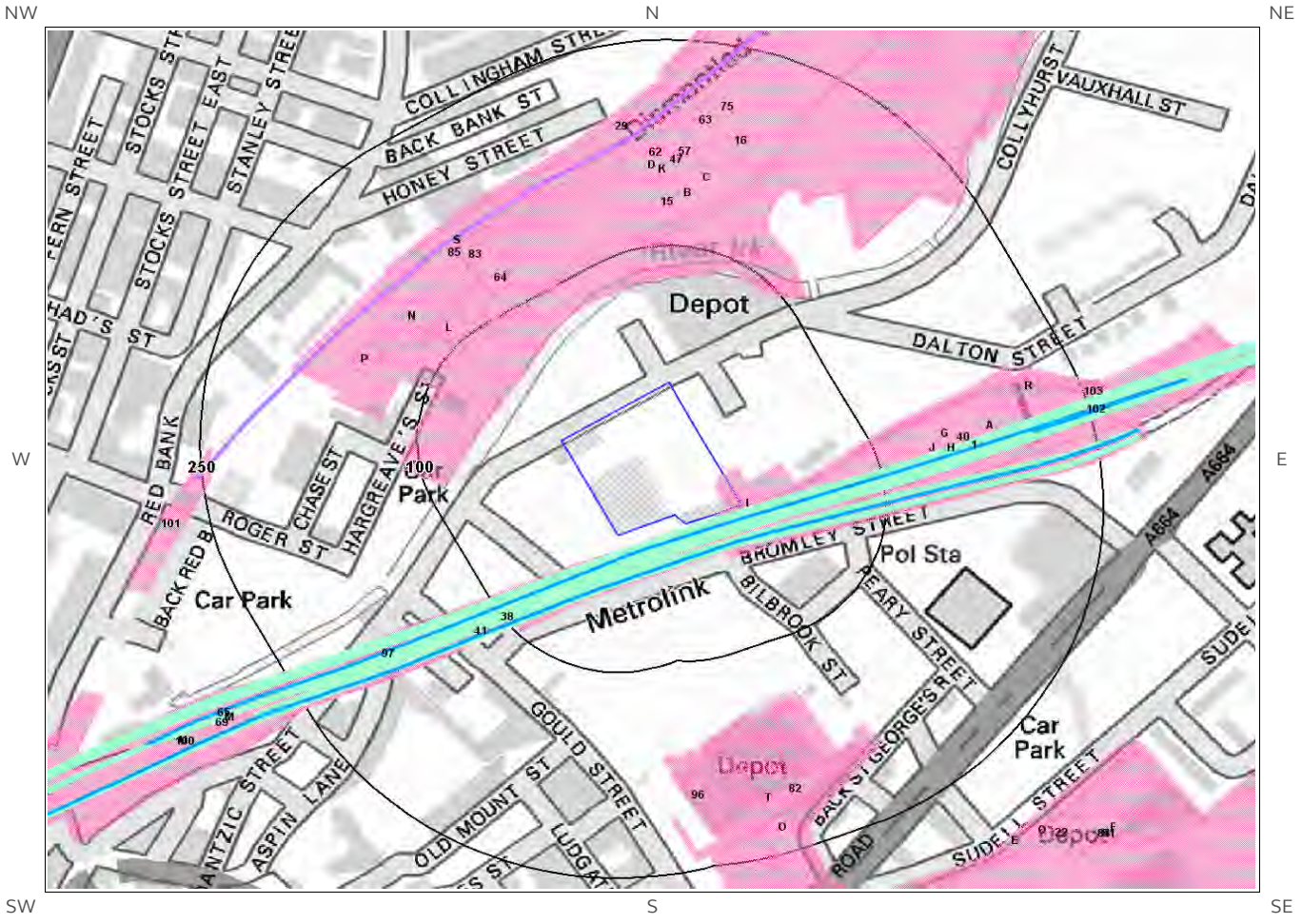
Records of background estimated soil chemistry within 250m of the study site boundary: 22

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geoinsight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	100 - 200 mg/kg
12.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
14.0	N	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	100 - 200 mg/kg
15.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
29.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
30.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
31.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
38.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
63.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
68.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	200 - 300 mg/kg
73.0	W	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	200 - 300 mg/kg
88.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	200 - 300 mg/kg
120.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
121.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
122.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	200 - 300 mg/kg
133.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
172.0	NE	RuralSoil	35 - 45 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
197.0	NE	RuralSoil	35 - 45 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
199.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
225.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
237.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

7 Railways and Tunnels Map



Railways and Tunnels Legend

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- Site Outline
- 250 / 500 Search Buffers (m)
- Underground or Partially Underground Railway / Subway System
- Railway Tunnel (OS Mapping)
- Abandoned or Dismantled Railway (OpenStreetMap)
- Railway Track (OS Mapping)
- Railway Track (OpenStreetMap)
- High Speed 2
- Crossrail 1
- Railway and/or Tunnel Feature from Historical Mapping

7 Railways and Tunnels

7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? Yes

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	0	On Site	384866 399443	Railway Sidings	1923
30G	0	On Site	384823 399435	Railway Sidings	1964
31G	0	S	384839 399441	Railway Sidings	1952
32H	0	S	384839 399441	Railway Sidings	1949
33G	0	S	384839 399441	Railway Sidings	1958
34I	1	S	384696 399396	Railway Sidings	1952

ID	Distance (m)	Direction	NGR	Details	Date
35I	1	S	384696 399396	Railway Sidings	1949
36I	1	S	384696 399396	Railway Sidings	1958
37I	1	S	384696 399396	Railway Sidings	1970
38	3	S	n/a	Railway	1922
39H	3	S	384845 399446	Railway Sidings	1931
40	3	S	384880 399444	Railway Sidings	1922
41	3	S	384784 399412	Railway Sidings	1908
2A	10	SE	384870 399454	Railway Sidings	1933
3A	10	SE	384870 399454	Railway Sidings	1921
4A	10	SE	384870 399454	Railway Sidings	1938
5A	10	SE	384870 399454	Railway Sidings	1906
42J	10	SE	384806 399425	Railway Sidings	1893
43J	12	SE	384796 399424	Railway Sidings	1891
6H	14	SE	384825 399426	Railway Sidings	1891
7A	45	NE	384868 399449	Railway Sidings	1971
8A	45	NE	384868 399449	Railway Sidings	1956
9A	45	NE	384868 399449	Railway Sidings	1978
10A	45	NE	384868 399449	Railway Sidings	1985
11B	50	NW	384866 400008	Railway Sidings	1933
12B	50	NW	384866 400008	Railway Sidings	1938
13C	51	NW	384866 400008	Railway Sidings	1906
14C	51	NW	384866 400008	Railway Sidings	1921
15	51	NW	384866 400008	Railway Sidings	1923
44	68	NE	384798 399454	Railway Sidings	1970
16	83	NW	384701 399754	Railway Sidings	1891
17D	90	NW	384731 399748	Railway Sidings	1956
18D	90	NW	384731 399748	Railway Sidings	1985
19D	90	NW	384731 399748	Railway Sidings	1971
20D	90	NW	384731 399748	Railway Sidings	1978

ID	Distance (m)	Direction	NGR	Details	Date
21D	90	NW	384677 399753	Railway Sidings	1988
45K	90	NW	384721 399713	Railway Sidings	1931
46K	92	NW	384721 399713	Railway Sidings	1922
47	92	NW	384721 399713	Railway Sidings	1908
48K	95	NW	384738 399748	Railway Sidings	1952
49K	95	NW	384738 399748	Railway Sidings	1964
50K	95	NW	384738 399748	Railway Sidings	1958
51K	95	NW	384738 399748	Railway Sidings	1949
52L	95	NW	384485 399526	Railway Sidings	1989
53L	95	NW	384485 399526	Railway Sidings	1949
54L	95	NW	384485 399526	Railway Sidings	1952
55L	95	NW	384485 399526	Railway Sidings	1968
56L	95	NW	384485 399526	Railway Sidings	1958
57	97	NW	384744 399742	Railway Sidings	1990
58L	97	NW	384485 399528	Railway Sidings	1978
59K	97	NW	384749 399742	Railway Sidings	1952
60K	97	NW	384749 399742	Railway Sidings	1958
61K	97	NW	384749 399742	Railway Sidings	1970
62	98	NW	n/a	Railway	1922
63	109	NW	384726 399719	Railway Sidings	1893
64	110	NW	384526 399560	Railway Sidings	1891
65	119	SW	384193 399180	Railway Sidings	1995
66M	120	SW	384172 399171	Railway Sidings	1990
67M	120	SW	384250 399172	Railway Sidings	1949
68M	120	SW	384250 399172	Railway Sidings	1952
69	120	SW	384262 399173	Railway Sidings	1963
70N	123	NW	384462 399533	Railway Sidings	1949
71N	124	NW	384462 399534	Railway Sidings	1958
72N	124	NW	384462 399534	Railway Sidings	1968

ID	Distance (m)	Direction	NGR	Details	Date
73N	124	NW	384462 399534	Railway Sidings	1952
74N	124	NW	384461 399534	Railway Sidings	1978
75	130	NW	384750 399739	Railway Sidings	1891
76O	138	S	384707 399130	Railway Sidings	1949
77O	138	S	384707 399130	Railway Sidings	1949
78P	139	NW	384431 399501	Railway Sidings	1922
79P	139	NW	384431 399501	Railway Sidings	1933
22	140	S	384910 399075	Railway Sidings	1891
80Q	142	S	384913 399073	Railway Sidings	1931
81	142	S	384641 399213	Railway Sidings	1893
23E	143	S	384894 399054	Railway Sidings	1933
24E	143	S	384894 399054	Railway Sidings	1938
82	143	S	384697 399186	Railway Sidings	1891
25Q	144	S	384898 399072	Railway Sidings	1923
26F	144	S	384898 399072	Railway Sidings	1906
27F	144	S	384898 399072	Railway Sidings	1921
83	144	NW	384508 399577	Railway Sidings	1891
84	144	S	384965 399136	Railway Sidings	1922
28T	146	S	384719 399180	Railway Sidings	1956
29	152	NW	384734 399793	Railway Sidings	1994
85	152	NW	384495 399578	Railway Sidings	1891
86R	154	NE	384864 399478	Railway Sidings	1958
87R	154	NE	384864 399478	Railway Sidings	1952
88R	154	NE	384864 399478	Railway Sidings	1949
89S	158	NW	384495 399588	Railway Sidings	1993
90S	159	NW	384495 399589	Railway Sidings	1993
91O	160	S	384707 399130	Railway Sidings	1952
92O	161	S	384707 399130	Railway Sidings	1958

ID	Distance (m)	Direction	NGR	Details	Date
93O	161	S	384707 399130	Railway Sidings	1952
94O	161	S	384707 399130	Railway Sidings	1958
95T	161	S	384720 399171	Railway Sidings	1964
96	164	S	384663 399184	Railway Sidings	1891
97	175	SW	384449 399286	Railway Sidings	1931
98U	183	SW	383765 398937	Railway Sidings	1922
99U	183	SW	383765 398937	Railway Sidings	1908
100	184	SW	383765 398937	Railway Sidings	1933
101	243	W	n/a	Railway	1885
102	243	E	384937 399465	Railway Sidings	1891
103	246	E	384935 399477	Railway Sidings	1891

Any records that have been identified are represented on the Railways and Tunnels Map.

7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Status
161	NW	Abandoned

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Name	Type
4	S	Not given	Rail
8	S	Caldervale Line	Rail

Distance (m)	Direction	Name	Type
8	S	Not given	Multi Track
12	S	Not given	Rail
13	S	Not given	Rail
16	S	Not given	Rail
22	S	Not given	Tram
23	S	Not given	Rail
24	S	Not given	Multi Track
26	S	Not given	Tram
209	E	Not given	Multi Track
209	E	Not given	Multi Track

Note: multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? Yes

Is the study site within 500m of the route of the Crossrail 1 rail project? No

*Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a **Groundsure HS2 and Crossrail 1 Report**.*

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

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Standard Terms and Conditions

1 Definitions

I**n these terms and conditions unless the context otherwise requires:**
"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.
"Client" means the party or parties entering into a Contract with Groundsure.
"Commercial" means any building or property which is not Residential.
"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than
(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and
(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).
"Support Services" means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.
"Contract" means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.
"Third Party Data Provider" means any third party providing Third Party Content to Groundsure.
"Data Reports" means reports comprising factual data with no accompanying interpretation.
"Fees" has the meaning set out in clause 5.1.
"Groundsure" means Groundsure Limited, a company registered in England and Wales under number 03421028.
"Groundsure Materials" means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.
"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.
"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.
"Order" means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.
"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.
"Order Website" means the online platform through which Orders may be placed by the Client and accepted by Groundsure.
"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.
"Residential" means any building or property used as or intended to be used as a single dwelling.
"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.
"Services" means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.
"Site" means the area of land in respect of which the Client has requested Groundsure to provide the Services.
"Third Party Content" means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.
"User Guide" means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.
2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.
2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.
2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.
2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.
2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and
(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and
(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.
3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.
3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.
3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.
3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.
3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.
4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;
(i) the Beneficiary,
(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
(iv) the first purchaser or first tenant of the Site, and
(v) the professional advisers and lenders of the first purchaser or tenant of the Site.
4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.
4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1Groundsure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").
5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.
5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to
(i) full payment of all relevant Fees and
(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.
6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure

acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.
6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.
6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.
6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.
7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.
7.4 Groundsure shall not be liable for

(i) loss of profits;
(ii) loss of business;
(iii) depletion of goodwill and/or similar losses;
(iv) loss of anticipated savings;
(v) loss of goods;
(vi) loss of contract;
(vii) loss of use;
(viii) loss or corruption of data or information;
(ix) business interruption;
(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;
(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
(xiii) loss or damage to a computer, software, modem, telephone or other property; and
(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.
7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.
8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.
9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.
12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.
12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.
12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.
12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.
12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;
(ii) fire, storm, flood, tempest or epidemic;
(iii) Acts of God or the public enemy;
(iv) riot, civil commotion or war;
(v) strikes, labour disputes or industrial action;
(vi) acts or regulations of any governmental or other agency;
(vii) suspension or delay of services at public registries by Third Party Data Providers;
(viii) changes in law; or
(ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent
required by law

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REGIONAL UNEXPLODED BOMB RISK

MANCHESTER

DENSITY OF BOMBS PER BOROUGH

Borough	High explosive	Anti-personnel	Incendiary
Bolton	45	0	0
Eccles	114	1	0
Manchester	712	18	7
Middleton	37	0	0
Oldham	25	1	0
Salford	406	29	16
Stretford	456	64	0
Swinton & Pendlebury	92	2	0
Urmston	122	5	0
Worsley	32	2	0

On average, 10% of high explosive and 50% of incendiary bombs failed to explode.

OTHER WWII TARGETS

- military
- transport
- utilities
- industry
- docks
- other

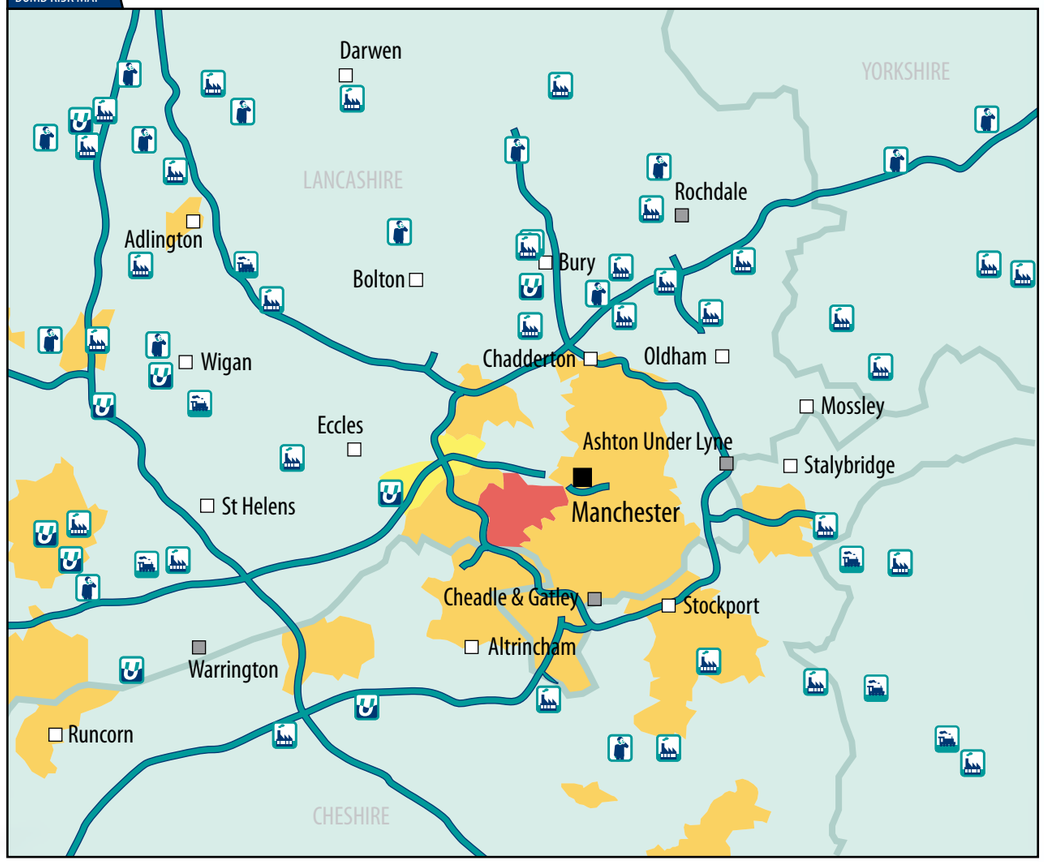
BOMB TONNAGE

- >1000
- >500
- >100
- >0
- unverified

BOMB RISK

- high
- moderate
- low

BOMB RISK MAP



The information in this regional UXB risk map is derived from a number of sources and should be read in conjunction with the "Users' Guide" (printed overleaf). Zetica cannot guarantee the accuracy or completeness of the information or data.

This map covers regions of coast with beaches, estuaries and alike. Further consideration of the bomb risk is required in these areas. The often inaccessible nature and changing ground conditions (e.g. movement of silt that may contain ordnance) means that historical bombing records for these areas are often poor or inaccurate and further assessment of the bomb risk may be required as part of a site specific study.

A FOUR-STEP PROCESS

Risk assessment and method statement from a qualified explosive ordnance clearance (EOC) operative.

Surface geophysical survey to allow shallow groundwork.

MAGCONE detects UXBs and obstructions on piling layout to the no-risk depth.

Detected UXBs can be dealt with by our EOC engineers and a Clearance Certificate issued for the site.

For more details on this and related services, telephone: +44 (0) 1993 886682 or visit our website: www.zetica.com

zetica

BOMB MAP USERS' GUIDE

Sources of information and explanation of bomb risk

Why?

Unexploded bombs (UXB) still present a risk to construction projects long after the end of the Second World War (WWII). UXBs often entered the ground unnoticed at high velocity and penetrated to a depth of several metres. Here they remain – vulnerable to disturbances from construction work. Beyond the depth of shallow excavation work, the greatest risk is to piling, drilling and probing crews. A piling rig could repeatedly hit a UXBs with considerable force before the crew realises an obstruction has been impacted. It could then be up to 72 hours before the detonator activates.

Who?

The responsibility for avoiding UXB risk usually lies with construction companies or house builders particularly those who are redeveloping urban sites. In addition, project engineering or environmental consultants are expected to advise their clients of a site's history. Other interested parties include those organisations whose employees are physically at most risk from intrusive works, normally piling companies, drillers or probing operators.

How?

UXB risk should be assessed for every site, but especially those in known heavily bombed areas or those situated near war-time strategic installations that were priority targets for enemy aircraft, for example, airfields. Zetica's regional bomb risk map is therefore a first point of reference from which the relative, potential abundance of UXBs can be judged. Consultants then advise their clients that an ordnance-risk desk study is required, which they may obtain from external sources. Construction companies or house builders who assess their own risk could choose to come direct to Zetica.

When?

Do not wait for the piling or drilling company to be on site before thinking about UXB risk – it will inevitably cause delays and higher costs. Request the regional bomb risk map from Zetica as soon as a site is being considered, and then use it to help you or your clients to decide if an ordnance-risk desk study is required.

Where?

Maps can be obtained for any county in England, Scotland, Wales or Northern Ireland – or for any London borough. They can help determine the areas that were most heavily bombed – but no part of the country should be considered 100% safe from UXB risk. Even remote rural areas can have a high risk if, for example, they were locations for decoy airfields or beacons that were lit to fool enemy pilots into thinking they had located a burning city that had been successfully hit by others in the raid.

How to use this regional map

This map is designed to give you an indication of the potential risk from UXBs in your area. If you are conducting work that involves excavation, piling or other disturbance of the ground, then you should use the map to identify the category of risk for your site.

The risk boundaries are a guide, compiled from data based on the political areas for which records are held; being just outside a high-risk area does not mean there is no UXB risk. You should use the map to assist in your decision of whether to investigate the UXB risk further.

Information on the regional risk remaining from UXBs in the UK

Zetica has built the largest UXB database of its kind in the UK. It includes a unique digital library of bomb census data, and maps showing key strategic points and bombing densities from the First and Second World Wars. The main sources of information include records from central government (Public Records Office), the Ministry of Defence, and the German Luftwaffe.

Using information from this database, Zetica has published maps of UXB risk on a regional, county and borough scale. The maps indicate relative degrees of UXB risk based on available records for bombing densities and known targeted areas for regions within the UK. The risk is broken down into individual boroughs, towns or cities. The data are based on the historical boroughs and are then overlaid onto the modern map. It is important to note that more-detailed research may be required for individual sites, particularly where proximity to a potential WWII target means the local risk may be higher.

High risk

Areas designated as high risk are those that show a high density of bombing hits (50+ bombs per 1000 acres) and abundant potential WWII targets. In high-risk regions, further action to mitigate UXB risk is considered essential.

Moderate risk

Moderate-risk regions are those that show a bomb density of between 11 and 50 bombs per 1000 acres and that may contain potential WWII targets. Action to mitigate the risk is considered essential, albeit more likely that a reduced scope of work is required compared with that needed for high-risk regions.

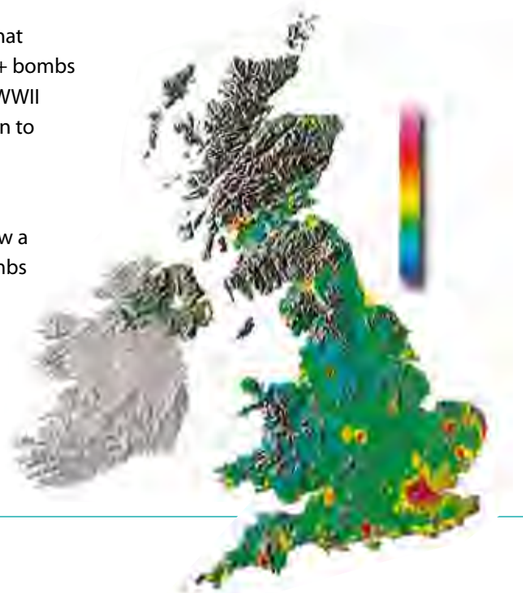
Low risk

Low-risk regions are those with a bombing density of up to 10 bombs per 1000 acres. These areas are considered to have a significant but low UXB 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.

Other WWII targets

Other regions with the risk of UXBs are key strategic points as defined by the government during WWII as representing potential enemy targets. Where these exist outside areas mapped as high, moderate or low risk, a site-specific assessment of the UXB risk may be required.

Relative UXB risk across UK



What to do if…

…you have a site that has a potential UXB risk

In the absence of current legislation requiring you to address the risk from UXBs, your responsibilities under health and safety legislation and regulations such as construction design and management require that you address all identified risks. The first stage is to request further advice from a professional adviser such as Zetica, or to gain more site-specific information by commissioning an ordnance-risk desk study. Then a strategy to deal with the risk can be established that is tailored to your proposed work.

…you find a suspect item or require advice

If during site works you find a suspect (ordnance-related) item, it is very important that you do not touch or move it (even if it has already been moved by an excavator). If it is clearly ordnance related, then dial 999 and ask for the police. Ensure that the area around the item is kept as clear as possible without placing yourself at risk. If you are unsure and do not wish to cause undue alarm, or you just require some advice, then you can call Zetica. We have experienced qualified UXB specialists on hand who can offer support and advice during any site works.

More-detailed procedures should be established in advance if you are in an area where the risk of finding a UXB is shown to be significant (moderate to high).

Site-specific desktop studies

Zetica is able to provide high-quality, site-specific UXB risk information for any residential, industrial or commercial property in the UK. These desktop studies provide details of the bombing density within an area and for the site itself, in order to indicate the risks of UXBs still being present. A risk assessment is provided to facilitate informed decision making on whether any further risk mitigation measures are required.

Appendix E

Hydrock Methodology

1.0 HYDROCK DESK STUDY REPORT APPENDIX ON HYDROCK METHODOLOGY

This appendix provides additional background information on certain approaches and methods used by Hydrock Consultants Ltd in the preparation of this report.

Throughout the report the term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements) and the term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential contamination). However, it should be appreciated that this is an integrated investigation and these two main aspects are inter-related. The geo-environmental sections are written in broad agreement with BS 10175:2011+A1:2013.

The report is a Preliminary Investigation (BS 10175:2011+A1:2013), often referred to as the Phase 1 Study[1], comprising desk study and walk-over survey, which culminates in the Preliminary Risk Assessment. A preliminary conceptual site model (CSM) is developed. From this are identified any geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them. From the geo-environmental perspective, the Hazard Identification process uses professional judgement to evaluate all the hazards in terms of **possible contaminant linkages** (of source-pathway-receptor). Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment.

[1] Please note that it does not refer to a site development phase.

2.0 DESK STUDY INFORMATION

2.1 Unexploded ordnance

Clients have a legal duty under the CDM 2007 Regulations to provide designers and contractors with project-specific health and safety information needed to identify hazards and risks. This includes the possibility of unexploded ordnance (UXO) being encountered on the site. Further details are given in CIRIA report C681 (Stone *et al* 2009).

A non-UXO specialist screening exercise has been carried out for the site by considering (a) any evidence of UK defence activities on or near the site evident from the gathered desk study information and (b) the unexploded aerial delivered bomb (UXB) regional risk maps produced by Zetica. Other data sources are available, but as a first stage screening exercise the freely available Zetica maps have been used. The level of risk stated is that determined by Zetica, a company experience in the desk study, field investigation and clearance of UX0/UXB.

2.2 Hydrogeology

Under the Water Framework Directive the designations of principal and secondary aquifers is based on the Environment Agency interactive aquifer designation map. Where aquifers have been mapped, and they are capable of sustaining a yield of 10 m^3/day or supplying 50 people on a continuous basis, the Environment Agency has designated a number of Groundwater Bodies to help manage water quality under the River Basin Management Plans. Groundwater bodies are defined based on their support for ecosystems as well as their capacity to supply drinking water. Note that some localised small aquifers capable of supporting the above supply may be too small to map and can be identified only by investigation.

Where an aquifer exists and it contains groundwater but is incapable of sustaining the above supply, the groundwater is not part of a Groundwater Body and is not considered a strategic resource. In which case the groundwater is not a receptor, but can be a pathway to other receptors by virtue of its ability to transport contaminants.

2.3 Radon

Advice on radon protection in England is provided by Public Health England (www.ukradon.org), formerly the Health Protection Agency (*The Indicative Atlas of Radon in England and Wales,* HPA-RPD-033 (Miles *et al* 2007) and RCE-15 (2010)), and by the BRE (BRE Report BR211 (Scivyer 2007)). An area of the country can be categorised according to the percentage of existing homes where radon is present above the Action Level: 0-1% lower probability, 1-3% and 3-10% intermediate probability and >10% higher probability. It is important to understand that the database on which these numbers are based is incomplete and contains more data points in areas of the country that have traditionally been known for high radon concentrations. As more properties are monitored, the categorisation may change.

The areas where >1% of homes exceed the Action Level are known as Radon Affected Areas.

The Building Regulations cite BR211 and require basic radon protection measures in new buildings in areas of England and Wales where 3-10% of properties exceed the Action Level and full radon protection measures where >10% exceed the Action Level.

Landlords and employers have a legal duty to keep radon levels as low as practicable and to install remedial measures if levels are too high. Commercial new build includes protection measures similar to those for new homes, but once occupied they are subject to the HSW Act and IRR99 regulations.

Private residents are advised to have a radon test where their property is in a Radon Affected Area, and to fit remedial measures if levels are too high.

The Law Society's advice to conveyancing solicitors is to ask the vendor standard questions concerning whether the property is in a radon affected area, whether it was constructed with radon protection measures and whether a radon test has been carried out by the vendor. Hydrock understands that PHE is discussing with the Law Society the adoption of stronger wording to these questions.

In 2009 the then Health Protection Agency recommended that Building Regulations and supporting documents should be amended to ensure that *all* new buildings, extensions, conversions and refurbished buildings in the UK include basic radon protective measures as a minimum. This recommendation was rejected by the Government. Consequently, the current situation is that a developer is *required* only to install protective measures in buildings where >3% of existing properties are above the Action Level, but is not required to install them in Radon Affected Areas where 1-3% of existing properties exceed the Action Level (even though there may be future implications for occupiers of these buildings).

3.0 RISK ASSESSMENT RATIONALE

The work presented in this report has been carried out in accordance with recognised best practice as detailed in guidance documents such as in the CLR 11 Model Procedures (Environment Agency 2004a), GP3 (Environment Agency August 2013), BS 5930:2015 and BS 10175:2011+A1:2013. Important aspects of the risk assessment process are transparency and justification. The particular rationale behind the risk assessments presented is given in this appendix.

A preliminary risk assessment is made of both geotechnical and geo-environmental hazards identified at the desk study stage and confirmed (or amended) at the ground investigation stage. In the case of geo-environmental hazards this is based on a simple matrix of probability of occurrence versus the consequence, as explained below, and is referred to as the **exposure model**. In the case of the geotechnical hazard identification, this is referred to as the **ground model**.

The geo-environmental risk assessment process proceeds to the next level, the generic risk assessment, in which actual contaminant concentrations are considered.

3.1 Preliminary risk assessment

In line with the CLR 11 Model Procedures (Environment Agency 2004a), the Preliminary Risk Assessment includes a geo-environmental Hazard Identification, which seeks to list all the suspected contaminant **sources**, the **receptors** that might be harmed by those sources and the **pathways** via which the sources might reach the receptors to cause the harm. The source-pathway-receptor concept is known as a contaminant linkage (formerly a pollutant linkage) and only when a linkage is complete is there any possibility of risk of harm arising.

The Hazard Identification process uses professional judgement to evaluate all the hazards in terms of **possible contaminant linkages**. Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and the chemical analysis of soil and water samples.

Where no ground investigation has been carried out (i.e. in a desk study only report) there is greater uncertainty in the information available and so a geoenvironmental consequences and probability assessment is undertaken.

Some linkages may be identified which constitute a theoretical connection between a source and a receptor, but professional judgement shows them not to be possible for some reason. These are labelled ‘no linkage’ in the summary table and no further action is required. If a linkage is possible, a comparison is made of consequence against probability in general accordance with the guidance given in CIRIA Report C552 (Rudland *et al* 2001).

Classification of consequences and probability are given in CIRIA C552 Tables 6.3 and 6.4, respectively, but there are a number of inconsistencies in the original Table 6.3, in particular relating to 'significant harm or significant possibility of significant harm' (SH/SPOSH). Consequently, the table has been updated by Hydrock in line with current practice and the revision presented in R&D Publication 66, Annex 4 (NHBC and Environment Agency. 2008, and is given in Table 3.1 below.

The basis of the classification is that 'severe' and 'medium' are likely to result in SH/SPOSH as defined by the EPA 1990, Part 2A, with 'severe' resulting in acute harm. 'Mild' lies below the level of SH/SPOSH but above the level of 'no harm' as implied by the relevant Generic assessment criterion (GAC, see below). Minor lies below the 'no harm' level.

Table 3.1: Classification of consequences of geo-environmental risks

Classification of Consequences for Geo-environmental Risks		
Classification	**Definition**	**Examples**
Severe	Concentration of contaminants is likely to (or is known from previous data to) exceed that indicative of unacceptable intake or contact. Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. I.e. >>SH/SPOSH, concentrations are high enough to cause acute (short-term) effects. Equivalent to EA **Category 1** pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.	Human health: short-term (acute) effects likely to result in significant harm. E.g. high conc. of cyanide on the surface of an informal recreational area. Significant harm to humans is defined as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Planting: complete and rapid die-back of landscaped areas. Controlled waters: short-term pollution, e.g. major spillage into controlled water. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Buildings etc.: catastrophic damage, e.g. explosion causing collapse. (can also equate to immediate human health risk if buildings are occupied). Ecosystems: acute risk to a particular ecosystem or organism forming part of that ecosystem in a designated protected area, e.g. by contamination spillage. Damage to a protected area of international significance (e.g. Ramsar site). Site workers: risk assessment required to determine PPE and this may involve USEPA Level A, B or C protection.

Classification of Consequences for Geo-environmental Risks		
Classification	**Definition**	**Examples**
Medium	Concentration of contaminants is likely to (or is known from previous data to) exceed that indicative of unacceptable intake or contact. Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. I.e. >SH/SPOSH. Equivalent to **EA Category 2** pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Human health: long-term (chronic) effects likely to result in significant harm. E.g. high conc. of contaminants close to the surface of a development site. Significant harm to humans is defined as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Planting: stressed or dead plants in landscaped areas. Controlled waters: pollution of sensitive water resources, e.g. leaching into principal or secondary aquifers or rivers. Buildings etc.: damage renders unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes. Ecosystems: chronic death of species in a particular ecosystem in a designated protected area, e.g. by contamination spillage. Damage to a protected area of national significance (e.g. Site of Special Scientific Interest). Site workers: risk assessment required to determine PPE and this may involve USEPA Level B, C or D protection.
Mild	Concentration of contaminants is likely to (or is known from previous data to) exceed that indicative of no harm but not unacceptable intake or contact. Exposure to human health **unlikely** to lead to "significant harm". I.e. >SVG/GAC but <SH/SPOSH. Equivalent to **EA Category 3** pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.	Human health: harm but probably not significant harm unless particularly sensitive individual within the receptor group. May be aesthetic/olfactory impacts. Exposure could lead to slight short-term effects (e.g. mild skin rash). Planting: damage to plants in landscaped areas, e.g. stunted growth, discoloration. Controlled waters: pollution of non-sensitive water bodies e.g. leaching into non-classified groundwater or minor ditches. Buildings etc.: damage to sensitive buildings etc. Surface spalling of concrete. Ecosystems: minor change in a particular ecosystem in a designated protected area, but not significant harm. Damage to a locally important area. Site workers: risk assessment required to determine PPE and this may involve USEPA Level C or D protection.

Classification of Consequences for Geo-environmental Risks		
Classification	**Definition**	**Examples**
Minor	Concentration of contaminants is likely to (or is known from previous data to) be less than that indicative of no harm. No measurable effects on humans. I.e. <SGV/GAC. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	No measurable effects, but simple PPE required (USEPA Level D protection, i.e. overalls, boots, goggles, hard hat). The loss of plants in a landscaping scheme. Discoloration of concrete.

CIRIA Report C552 Table 6.4 is reproduced as Table 3.2 below. This provides an estimate of the probability that the event described by the contaminant linkage will occur. For example, the likelihood that pollution of groundwater will occur by leaching of metals into the aquifer.

Table 3.2: Classification of Probability of Geo-environmental Risks

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

The perceived level of risk for each pathway is then derived from the probability versus consequences matrix, modified after CIRIA C552 Table 6.5, given in Table 3.3 below. Note that by definition, no contaminant linkage equates to no risk.

Table 3.3: Qualitative Risk Level from Consequence and Probability

		Consequence			
Probability	*product*	**Severe**	**Medium**	**Mild**	**Minor**
	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			

This approach assumes an equivalence between probability and consequences and ignores the difficulty that can arise where to probability of occurrence appears to be almost negligible but the consequences are very severe. In such conditions there is a degree of subjectivity in assessing the level of risk and it could be low, moderate or high. Such risks may require specialist consideration beyond the scope of this standard report.

Finally, a description of the classified risks and the likely action required can be determined from Table 3.4 below.

Table 3.4: Description of the Classified Risks and Likely Action Required

Description of Classified Risks and Likely Action Required	
Very High Risk	A significant contaminant linkage, including actual evidence of significant harm or significant possibility and significant harm, is clearly identifiable at the site (e.g. from visual or documentary evidence) under current conditions, with potential for legal and/or financial consequences for the site owner or other Responsible Person. Remediation advisable based on acute impacts being likely. Immediate action should be considered.
High Risk	A contaminant linkage is identifiable at the site under current and future use conditions. Although likely, there is no obvious actual evidence of significant harm or significant possibility and significant harm under current conditions. Extent of risk is therefore subject to confirmation by investigation and risk assessment and most likely to be deemed significant. Realisation of the risk is likely to present a substantial liability to the site owner or other Responsible Person. Remediation required for redevelopment and may also be required under Part 2A for existing receptors.
Moderate Risk	A contaminant linkage is identifiable at the site under current and future use conditions. However, it is not likely to be a significant linkage under current conditions. It is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Actual extent of risk subject to confirmation by additional investigation and risk assessment and most likely to lie between no possibility of harm (under current conditions) and significant possibility of significant harm (under conditions created by new use). Remediation may be required for redevelopment.
Low risk	Potential pathways and receptors exist but history of contaminative use or site conditions indicates that contamination is likely to be of limited extent and below the level of no possibility of harm. It is unlikely that the site owner or other Responsible Person would face substantial liabilities from suck a risk. Precautionary investigations and risk assessment advisable on change of use. Any subsequent remedial works are likely to be relatively limited.
Very Low Risk	No contaminant linkage likely to exist under current or future conditions, but this cannot be completely discounted. If harm is realised, it is likely at worst to be mild or minor. Site not capable of being determined under Part 2A where the local authority inspects the site. No further action recommended.
No Risk	No contaminant linkage exists.

4.0 FLOOD RISK

The following additional information concerns the background to flood risk mentioned in the report. Guidance is given in the document *Technical Guidance to the National Planning Policy Framework* (DCLG March 2012) which retains key elements from the withdrawn Planning Policy Statement 25.

The Environment Agency flood maps are divided into Flood Zones, as follows.

- Flood Zone 1 is land outside the extent of extreme flooding and the annual risk is less than 1:1000, low probability (depicted as white on the web-based map).

- Flood Zone 2 is land unlikely to flood except in extreme conditions if no defences are present and the annual risk is between 1:100 and 1:1000 (for rivers) or 1:200 and 1:1000 (for the sea), medium probability (depicted as light blue on the web-based map).

- Flood Zone 3 is land within the floodplain at risk of flooding if no defences are present and the annual risk is greater than or equal to 1:100 (for rivers) or 1:200 (for the sea), high probability (depicted as dark blue on the web-based map).

The Agency flood maps also define the risk of flooding: as 'low' (≤1:200), 'moderate' (>1:200 to ≤1:75) or 'significant' (>1:75), which are not the same divisions as those in the guidance mentioned above. Note that the published flood map only relates to flooding from rivers, estuaries and the sea and does not include other potential sources such as surface water, groundwater, sewers, canals and reservoirs. Note also that the presence on the map of flood defences, or areas benefiting from flood defences, should not be taken to imply that a proposed development in these areas is acceptable.

The **Environment Agency in England** has issued Flood Risk Standing Advice. However, this is to be reviewed following the publication of the NPPF (see http://www.environment-agency.gov.uk/research/planning/33098.aspx for updates and details).

The flood map mentioned above can be accessed at the Agency's website.

The Technical Guidance states:

- Within Flood Zone 1 all uses of land are appropriate. For development proposals on sites comprising one hectare or above, the vulnerability to flooding from other sources as well as from river and sea flooding; and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off, should be incorporated in a flood risk assessment (FRA) to accompany the planning application. This need only be brief unless the factors above or other local considerations require particular attention. For development proposals less than one hectare no flood risk assessment (FRA) is required.

- Within Flood Zone 2, water-compatible, less vulnerable and more vulnerable uses of land and essential infrastructure (as defined in Technical Guidance, Table 2) are appropriate in this zone. The Sequential Test is required and must be passed and for highly vulnerable uses in Table 2 the Exception Test must be applied and passed also. All development proposals in this zone should be accompanied by a flood risk assessment (FRA).

- Flood Zone 3 is sub-divided into 3a and 3b, but these are not distinguished on the published maps. Flood Zone 3a is land having an annual probability of flooding of >1:100 (from rivers) or >1:200 (from the sea). The water-compatible and less vulnerable uses of land (as defined in Technical Guidance, Table 2) are appropriate in this zone. The highly vulnerable uses in Table 2 should not be permitted in this zone. The Sequential Test is required and must be passed and for the more vulnerable and essential infrastructure uses in Table 2 the Exception Test must be applied and passed also. Essential infrastructure permitted in this zone should be designed and constructed to remain operational and safe for users in times of flood. All development proposals in this zone should be accompanied by a flood risk assessment (FRA).

  Flood Zone 3b is known as the 'functional floodplain' and comprises land where water has to flow or be stored in times of flood and should be identified on Strategic Flood Risk Assessments (SFRA) undertaken by the Local Planning Authority. Such land is defined as land which would flood with an annual probability of 1:20 or greater, or is *designed* to flood in an extreme (1:1000) flood, or at another probability to be agreed between the Local Planning Authority and the Environment Agency, including water conveyance routes). Only the water-compatible uses and the essential infrastructure (as defined in Technical Guidance, Table 2) that has to be there should be permitted in this zone. It should be designed and constructed to: remain operational and safe for users in times of flood; result in no net loss of floodplain storage; not impede water flows; and not increase flood risk elsewhere. The Sequential Test is required and must be passed and for essential infrastructure the Exception Test must be applied and passed also. All development proposals in this zone should be accompanied by a FRA.

Natural Resources Wales points users to the Environment Agency flood map, but this is not used for planning purposes (only to provide information on flood risk and to raise awareness). Development advice with respect to flooding is provided by the Welsh Assembly Government (July 2004) Technical Advice Note 15 (TAN15) and the accompanying development advice maps. An interactive map is available from the WAG web site.

The development advice map containing three zones (A, B and C with subdivision into C1 and C2) should be used to trigger the appropriate planning tests.

- Zone A is considered to be at little or no risk of fluvial or tidal/coastal flooding. The justification test (TAN15, Section 6) is not applicable and there is no need to consider flood risk further. This equates to Flood Zone 1 on the Agency maps.

- Zone B is land known to have been flooded in the past evidenced by sedimentary deposits. As part of a precautionary approach site levels should be checked against the extreme (1:1000) flood level. If site levels are greater than the flood levels used to define adjacent extreme flood outline there is no need to consider flood risk further. This land within Flood Zone 1 of the Agency maps but close to Flood Zone 2 or 3.

- Zone C is based on the Environment Agency extreme flood outline, equal to or greater than 1:1000 (river, tidal or coastal) and equates to Flood Zones 2 and 3 on the Agency map. Flooding issues should be considered as an integral part of decision making by the application of the justification test (TAN15, Section 6) including assessment of consequences (TAN15, Section 7) is required. Sub-division C1 is land in the floodplain which are developed and served by significant infrastructure, including flood defences. Development can take place subject to application of the justification test, including acceptability of consequences. Sub-division C2 is land in the floodplain without significant flood defence infrastructure. Only less vulnerable development should be considered subject to application of the justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered. The categories of land use are defined in TAN15, Figure 2.

5.0 REFERENCES

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