

# **Great Yarmouth Third River Crossing**

## **Application for Development Consent Order**

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### **Document 6.2: Environmental Statement Volume II: Technical Appendix 16B: Interpretative Environmental Desk Study Report**

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**Planning Act 2008**

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (“APFP”)**

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CONTENTS	PAGE No.
<b>Tables.....</b>	<b>iii</b>
<b>1 Introduction.....</b>	<b>1</b>
1.1 Terms of Reference .....	1
1.2 Scheme Description.....	1
1.3 Legislative Context.....	3
1.4 Scope of Report.....	4
<b>2 Desk Study Research .....</b>	<b>5</b>
2.1 Site Location .....	5
2.2 Site Setting and Description.....	5
2.3 Adjacent Land Use.....	6
2.4 Environmental Designations and Ecology.....	7
2.5 Site History .....	7
2.6 Geology .....	8
2.7 Hydrogeology.....	11
2.8 Hydrology.....	11
2.9 Waste Management Facilities.....	11
2.10 Environmental Permits, Incidents and Registers .....	13
2.11 Natural Ground Hazards.....	15
2.12 Mining, Extraction and Natural Cavities .....	16
2.13 Radon .....	16
2.14 Part 2A Determination.....	16
2.15 Unexploded Ordnance .....	17
2.16 Existing Reports.....	17
2.17 Ground Model .....	17
2.18 Potential Contaminant Linkages .....	17
2.19 Risk Evaluation .....	20
2.20 Potential Waste and Sustainability Considerations .....	24





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2.21 Safety, Health and Environmental Considerations.....	24
2.22 Ground Investigation.....	24
<b>3 Conclusions .....</b>	<b>25</b>
3.1 Key Findings .....	25
<b>4 Limitations.....</b>	<b>26</b>
<b>5 References .....</b>	<b>27</b>
<b>Annex A: Photographs .....</b>	<b>28</b>
<b>Annex B: Groundsure Report.....</b>	<b>39</b>
<b>Annex C: Site History.....</b>	<b>311</b>
<b>Annex D: Zetica UXO Risk.....</b>	<b>313</b>
<b>Annex E: Risk Classification Matrixes .....</b>	<b>316</b>

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## Tables

Table 2.1: Summary of Adjacent Land Uses .....	6
Table 2.2: Summary of Historical BGS Boreholes.....	9
Table 2.3: Summary of Natural Ground Hazards .....	15
Table 2.4: Potential Sources .....	18
Table 2.5: Potential Receptors .....	19
Table 2.6: Potential Pathways.....	20
Table 2.7: Summary of Potential Contaminant Linkages.....	22

# 1 Introduction

## 1.1 Terms of Reference

- 1.1.1 WSP Ltd were commissioned by Norfolk County Council ('The Applicant') to prepare an Interpretative Environmental Desk Study in relation to the Great Yarmouth Third River Crossing ('the Scheme') to assess the potential environmental risks, constraints and liabilities associated with the Scheme. The first revision of this report dated July 2017 was prepared in advance of the Order Limits and the Scheme description being finalised and the construction Contractor being appointed. This version dated March 2019 updates these aspects and wholly supersedes the report dated July 2017.

## 1.2 Scheme Description

- 1.2.1 The Scheme involves the construction, operation and maintenance of a new crossing of the River Yare in Great Yarmouth. The Scheme consists of a new dual carriageway road, including a road bridge across the river, linking the A47 at Harfrey's Roundabout on the western side of the river to the A1243 South Denes Road on the eastern side. The Scheme would feature an opening span double leaf bascule (lifting) bridge across the river, involving the construction of two new 'knuckles' extending the quay wall into the river to support the bridge. The Scheme would include a bridge span over the existing Southtown Road on the western side of the river, and a bridge span on the eastern side of the river to provide an underpass for existing businesses, enabling the new dual carriageway road to rise westwards towards the crest of the new crossing.
- 1.2.2 If constructed, the Scheme would comprise the following principal elements:
- A new dual carriageway road, crossing the River Yare in an east-west orientation, comprising:
    - A new double-leaf bascule bridge providing an opening span to facilitate vessel movement within the river. This would include structures to support and accommodate the operational requirements of the bridge-opening mechanism, including counterweights below the level of the bridge deck. The bridge would be supported on driven piles;
    - New substructures, supported by driven piles, to support the double leaf bascule bridge within the existing quays either side of the river and within the river itself, requiring new permanent

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“knuckle” walls, creating cofferdams in the waterway to accommodate their construction;

- A new five-arm roundabout connecting the new dual carriageway road with Suffolk Road, William Adams Way and the western end of Queen Anne’s Road. Sections of the new five arm roundabout would be supported on driven piles where deep soft ground is encountered;
  - A single-span bridge over Southtown Road, with reinforced earth embankments joining that bridge to the new roundabout at William Adams Way. Southtown Road bridge and the reinforced earth embankments would be supported on driven piles;
  - A single-span bridge to provide an underpass on the eastern side of the river, with reinforced earth embankments joining that single span bridge to South Denes Road. The underpass and reinforced earth embankments would be supported on driven piles;
  - A new signalised junction connecting the new road with A1243 South Denes Road; and
- The closure of Queen Anne’s Road, at its junction with Suffolk Road, and the opening of a new junction onto Southtown Road providing vehicular and pedestrian access to residential properties and the MIND Centre and Grounds at the eastern end of Queen Anne’s Road;
  - Revised access arrangements for existing businesses onto the local highway network;
  - Dedicated provision for cyclists and pedestrians which ties into existing networks;
  - Implementation of part of a flood defence scheme along Bollard Quay that is proposed to be promoted by the Environment Agency, and works to integrate with the remainder of the flood defence scheme;
  - A control tower structure located immediately south of the crossing on the western side of the river. The control tower would facilitate the 24/7 operation of the opening span of the new double-leaf bascule bridge;
  - A plant room located on the eastern side of the river for the operation of the opening span of the new double-leaf bascule bridge;
  - The demolition of an existing footbridge on William Adams Way;
  - Associated changes, modifications and/or improvements to the existing local highway network;
  - Additional signage, including Variable Message Signs (VMS) at discrete locations, to assist the movement of traffic in response to network conditions and the openings / closings of the double-leaf bascule bridge;

- The relocation of existing allotments to compensate for an area to be lost as a result of the Scheme and other works, including those at the MIND Centre and Grounds; and
- New public realm, landscape, ecology and sustainable drainage measures;

**1.2.3** The Scheme also includes works to facilitate the construction, operation and maintenance of the above elements including:

- Creation of temporary construction sites and accesses from the public highway;
- Provision of new utilities and services and the diversion of existing utilities;
- Provision of drainage infrastructure, lighting and landscaping;
- Demolition of a number of existing residential and commercial / business properties; and
- Provision of small vessel waiting facilities to the north and south of the new crossing, either as floating pontoons or additional fendering to the existing berths, including any dredging and quay strengthening works that may be required.

### **1.3 Legislative Context**

**1.3.1** The presence of contaminants which may pose a risk to human health or the environment is a material planning consideration. In determining the application for development consent, the Examining Authority will consider whether the site is suitable for its new use. The responsibility for securing a safe development (including cumulative effects of pollution on human health receptors (identified in Table 3.2 below) and the potential sensitivity of the proposed development to adverse effects from pollution) rests with the developer and/or landowner. The Examining Authority is concerned with the site's proposed use rather than its current use.

**1.3.2** Section 57 of the Environment Act 1995, adds Part 2A (ss.78A-78YC) (Ref 16B.1) to the Environmental Protection Act 1990 (Ref 16B.2) and contains the legislative framework for identifying and dealing with contaminated land. Where development is undertaken on land which may be affected by contamination, the National Planning Policy Framework, paragraphs 170 and 178 to 180 considers pollution and remediation (Ref 16B.3).



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## 1.4 Scope of Report

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1.4.1 The objective of this study is to assess the potential environmental risks, constraints and liabilities associated with the Study Area (see Section 2.1 below) in respect of the Scheme.

1.4.2 The scope of work comprises:

- A site walkover undertaken by a suitably qualified Geo-Environmental Scientist;
- An interpretation of the information obtained from a Groundsure Report;
- A preliminary assessment of potential geo-environmental risks following the methodology of CLR11 (Ref 16B.4); and
- Recommendations for further investigation/actions if required.

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## 2 Desk Study Research

### 2.1 Site Location

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- 2.1.1** The irregular shaped Principal Application Site is located either side of the River Yare, immediately south of Great Yarmouth Town Centre. The Order Limits are presented on Drawing GYTRC-WSP-EGN-XX-DR-EN-0003 Figure 1.1 Site Location Plan (Regulation 5(2)(a)).
- 2.1.2** The Study Area for this desk study report is presented on Drawing GYTRC-WSP-EGN-XX-DR-EN-0128 Figure 16.1 Interpretative Environmental Desk Study – Study Area Boundary (Regulation 5(2)(a)) and comprises an area larger than the Order Limits for the Principal Application Site. This was to encompass a suitable Rochdale Envelope in the early stages of the project. A buffer of approximately 500m (not shown on Drawing GYTRC-WSP-EGN-XX-DR-EN-0128 Figure 16.1 Interpretative Environmental Desk Study – Study Area Boundary (Regulation 5(2)(a)) was also included to capture potential Sites of Special Scientific Interest (SSSI's) and other sensitive receptors as well as landfills and other potentially contaminative current and historical uses in the surrounding area that could influence the Principal Application Site.
- 2.1.3** The Satellite Application Sites have not been included within this study as they are existing highway and developed areas and do not include significant excavations or ground penetration which could influence / affect geology and soils.

### 2.2 Site Setting and Description

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- 2.2.1** A walkover was undertaken by a qualified WSP Geo-Environmental Engineer on 12th July 2017. Photographs and a photograph location plan are presented in Annex A.
- 2.2.2** The Study Area is split into two unequal parts by the River Yare which flows from north to south through the Study Area. For the purposes of this report, reference is made to eastern and western areas to distinguish information related to the eastern side of the River Yare and the western side of the River Yare.
- 2.2.3** The eastern area is densely developed and includes:

- commercial / industrial properties including oil / gas storage sites (including ASCO Ltd (Annex A, photograph 5) and Butler Fuels Ltd on the quayside,
- Barrack Road gas works (Annex A, photograph 1 and photograph 2) site adjacent to the eastern boundary),
- an operating port facility with associated hard standing and warehouses / depots (Annex A, photograph 9),
- residential properties (predominantly in the northern part of the area),
- a petrol filling station,
- car dealership.

#### 2.2.4 The western area includes:

- hard standing quayside,
- the major A47 dual carriageway,
- William Adams Way highway,
- residential properties (Annex A, photograph 4),
- commercial properties including car and caravan sales,
- a petrol station, oil and gas storage facilities (ASCO Ltd within the quayside close to William Adams Way – Annex A, photograph 9),
- docks and port facilities,
- military properties (air training corps),
- community facilities and public open space (Annex A, photograph 11 and 13),
- Allotments (Annex A photograph 13).

## 2.3 Adjacent Land Use

### 2.3.1 Table 2.1 below summarises the adjacent land uses.

*Table 2.1: Summary of Adjacent Land Uses*

Direction	Surrounding Land Use
<b>North</b>	Predominantly commercial / industrial with some residential properties on the west side of the river and predominantly residential properties with a few



Direction	Surrounding Land Use
	commercial properties on the east side of the river.
<b>East</b>	Predominantly residential properties with occasional commercial properties and a community centre.
<b>South</b>	Commercial / industrial properties on the east side of the river and residential properties, commercial properties and a recreation ground on the west side of the river.
<b>West</b>	Commercial / industrial properties.

## 2.4 Environmental Designations and Ecology

**2.4.1** The Study Area is wholly located within a nitrate vulnerable zone. Two other environmentally sensitive areas are located within 500m of the Study Area;

- Outer Thames Estuary, approximately 465m to the east of the Study Area; and
- Broads, approximately 390m to the west of the Study Area.

## 2.5 Site History

**2.5.1** The history of the Study Area has been assessed from a review of historical Ordnance Survey maps from the GroundSure report presented in Annex B. A summary is presented below. A more detailed history, including the adjacent and surrounding land is presented in Annex C.

### Eastern Area

**2.5.2** The earliest map provided by GroundSure dated 1883 indicates the eastern area of the Study Area to be densely developed predominantly with commercial / industrial properties including a gasworks, boat building yard and an icehouse. Some residential properties were marked but generally the area is dominated by industry. This eastern area has generally remained a commercial / industrial area up to the present day. Various industries have been present including fish canning, oilskin production, chemical factory and unspecified depots, warehouses and factories.

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## Western Area

- 2.5.3** The earliest map provided by GroundSure dated 1883 indicates the western area of the Study Area to be less developed than the eastern area. The majority of the development was present adjacent to the River Yare and comprised a mix of residential properties and commercial / industrial sites such as an iron works, rope walk, gas works and malthouses. Beyond, towards the western boundary was agricultural land.
- 2.5.4** By 1906, a railway line running north-south was constructed towards the western boundary and by 1926 / 1927, formal gardens and allotments are present towards the centre of the Study Area. A shoe factory is marked adjacent to Queen Anne's Road in 1949 and by 1966 is relabelled as a printing works.
- 2.5.5** By 1978, the railway line had been dismantled and commercial / industrial units had started to be developed in the far west of the Study Area and beyond. By 1988, the former rail route had started to be redeveloped as a dual carriageway and by 2002 the current major highway routes had been established.

## 2.6 Geology

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### Superficial

- 2.6.1** The British Geological Survey (BGS) website ([www.bgs.ac.uk](http://www.bgs.ac.uk)) indicates the Study Area is underlain by a variety of superficial deposits;
- South west - peat of the Breydon Formation,
  - North – clay and silt of the Breydon Formation,
  - Eastern part beyond the River Yare – sand and gravel of the North Denes Formation.
  - Within the River Yare - Clay and silt tidal river or creek deposits.

### Solid

- 2.6.2** The BGS website ([www.bgs.ac.uk](http://www.bgs.ac.uk)) indicates the bedrock underlying the Study Area is sand and gravel of the Crag Group.

### Ground Workings

- 2.6.3** GroundSure records a number of historical ground workings within the Study Area, all associated with the quay / wharf immediately adjacent to the River Yare.

## BGS Boreholes

2.6.4 GroundSure reports 107 borehole records within the Study Area but some are confidential and cannot be viewed on the BGS website – [www.bgs.ac.uk](http://www.bgs.ac.uk). A summary of the locations within the Study Area is presented in Table 2.2 below.

Table 2.2: Summary of Historical BGS Boreholes

Borehole Ref	Location	Summary
<b>TG50NW27</b>	Close to junction between William Adams Way and Suffolk Road.	Made ground to 2m depth overlying silt, sand and clay.
<b>TG50NW164</b>	Close to junction between William Adams Way and Suffolk Road.	Ash fill to approximately 4ft 6' depth overlying clay (with peat layers) sand and gravel.
<b>TG50NW429</b>	Close to junction between William Adams Way and Suffolk Road.	Fill to 1.05m depth overlying clay, sand, silt and peat.
<b>TG50NW26</b>	Close to junction between William Adams Way and Suffolk Road.	Made ground to 1,2m depth overlying silt, sand, clay (with peat) and gravel.
<b>TG50NW185</b>	Close to junction between William Adams Way and Suffolk Road.	Made ground to approximately 1ft depth overlying clay, silt, sand, peat and gravel.
<b>TG50NW28</b>	Close to junction between William Adams Way and Suffolk Road.	Topsoil overlying clay, peat and sand.
<b>TG50NW472</b>	William Adams Way close to A12 roundabout	Topsoil overlying clay, sand, silt and peat.
<b>TG50NW29</b>	Close to junction of Suffolk Road and Queen Annes Road.	Topsoil overlying clay, sand, silt and peat.
<b>TG50NW184</b>	Junction of Queen Annes Road and Suffolk Road.	Made ground to approximately 3ft 6 depth overlying clay, sand, silt , peat and gravel.
<b>TG50NW4</b>	Adjacent to Suffolk Road, north of Queen Annes Road	Made ground to 1.07m depth overlying clay, sand, silt, peat and gravel.

Borehole Ref	Location	Summary
<b>TG50NW582</b>	Southtown Road, adjacent to the River Yare.	300mm thickness of asphalt and concrete over made ground to 2.2m depth. Underlying natural strata is sand and gravel,
<b>TG50NW587</b>	Southtown Road, adjacent to the River Yare.	300mm thickness of asphalt and concrete over made ground to 3.0m depth. Underlying natural strata is silt, sand and gravel
<b>TG50NW581</b>	Southtown Road, adjacent to the River Yare.	200mm thickness of asphalt and concrete over made ground to 2.2m depth. Underlying natural strata is sand and gravel.
<b>TG50NW586</b>	Southtown Road, adjacent to the River Yare.	400mm thickness of asphalt and concrete over made ground to 2.2m depth. Underlying natural strata is silt (with peat), sand and gravel
<b>TG50NW368</b>	Quayside on the eastern side of the River Yare.	180mm thickness of reinforced concrete over made ground to 1.2m depth. Underlying natural strata is sand and silt.
<b>TG50NW342</b>	Quayside on the eastern side of the River Yare.	300mm thickness of reinforced concrete over made ground to 6.6m depth. Underlying natural strata is sand and gravel.
<b>TG50NW344</b>	Quayside on the eastern side of the River Yare.	300mm thickness of reinforced concrete over made ground to 1.0m depth. Underlying natural strata is sand and gravel.

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## 2.7 Hydrogeology

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- 2.7.1 The superficial deposits underlying the Study Area to the east of the River Yare are classified as a Secondary (A) Aquifer with permeable layers. These are defined by the Environment Agency as 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.
- 2.7.2 The superficial deposits underlying the Study Area to the west of the River Yare are classified as unproductive.
- 2.7.3 The underlying bedrock is classified as a Principal Aquifer. These are defined by the Environment Agency as layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.
- 2.7.4 The GroundSure report (Annex B) indicates the Study Area is not within a Source Protection Zone.
- 2.7.5 There are no groundwater abstraction points within the Study Area but there is one approximately 71m from the north-west corner of the Study Area as follows: Licence no. AN/034/0015/020 expires in 2030 and is authorised for a maximum daily volume of 210m<sup>3</sup> and an annual volume of 60,000m<sup>3</sup>. The abstraction is authorised for laundry use.

## 2.8 Hydrology

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- 2.8.1 The River Yare is the only watercourse recorded in the Study Area and within 500m of the Study Area.
- 2.8.2 There are no active surface water abstraction licences within 2km of the Study Area. There is one historical abstraction licence 443m to the north of the Study Area that expired in 2015 (licence no. AN/034/0015/013).
- 2.8.3 There are no potable water abstraction licences within 2km of the Study Area.

## 2.9 Waste Management Facilities

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- 2.9.1 No active Environment Agency landfill sites are present within 1km of the Study Area.
- 2.9.2 One historic Environment Agency landfill site is present within 1km of the Study Area; Site reference WD709a, approximately 450m to the west of the Study Area. Licenced to accept inert, industrial, commercial and household

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waste and operated by Great Yarmouth Council. The last record of the site held by GroundSure is dated 1974.

2.9.3 No BGS/DoE non-operational landfill sites are present within 1km of the Study Area.

2.9.4 No Local Authority recorded landfill sites within 1km of the Study Area.

2.9.5 GroundSure records one Environment Agency licensed waste site in the Study Area and eight sites within 250m of the Study Area (although there are multiple records for each):

- Within the Study Area (south west corner) - waste management licence 71429; EA/EPR/CP3094NZ/V003. Household, commercial and industrial waste transfer station for between 25,000t and 75,000t, operated by Thurtle Walter.
- 13m from the south west corner of the Study Area – waste management licence 71417; EA/EPR/FP3394NJ/A001. Household, commercial and industrial waste transfer station for less than 25,000t, operated by Folkes Plant and Aggregate Ltd.
- 53m from the south west corner of the Study Area – waste management licence 70532; EA/EPR/YP3229NB/A001. Special waste transfer station for greater than 75,000t, operated by Paul Clements.
- 108m from the south east corner of the Study Area – waste management licence 71491; EA/EPR/AB3801UE/S002. Asbestos waste transfer station. Licence surrendered in 2016.
- 150m from the south west corner of the Study Area – waste management licence 103802; EA/EPR/EB3535AM/V002. Inert and excavation waste

transfer and treatment for less than 25,000t, operated by E E Green and Son Ltd.

- 163m from the north west corner of the Study Area – waste management licence 70505; EA/EPR/KP3898VU/V002. Special waste transfer station for less than 25,000t, operated by Biffa Waste Services Ltd.
- 183m from the north west corner of the Study Area – waste management licence 70536; EA/EPR/YP3799NF/V002. Special waste transfer station for less than 25,000t, operated by C+L Waste Oil Collection.
- 229m from the north west corner of the Study Area – waste management licence 70535; EA/EPR/YP3199NQ/S004. Special waste transfer station. Licence surrendered in 2007.

## **2.10 Environmental Permits, Incidents and Registers**

**2.10.1** Records of active environmental permits or registers within the Study Area and within 250m are detailed below.

### **Part A(1) And IPPC Authorised Activities**

**2.10.2** No records within the Study Area, but there are three active records within 250m of the Study Area each with multiple entries:

- 167m from the north west corner of the Study Area – Great Yarmouth Wm Resource Centre, EPR/zp3637rm. Operated by Augean North Sea Services Ltd. Records are present for three different processes – disposal or recovery of hazardous waste; disposal of greater than 50t/day of non-hazardous waste involving physio-chemical treatment; and temporary storage of hazardous waste.
- 187m from the northern boundary of the Study Area – Great Yarmouth Oil Reclamation Facility, EPR/np3038mb, WP3437RY. Operated by C&L Waste Oil Collection. Records are present for two different processes - disposal or recovery of hazardous waste; and temporary storage of hazardous waste.

### **List 2 Dangerous Substances Inventory Sites**

**2.10.3** No active records within the Study Area but one active record within 250m of the Study Area is reported by GroundSure (see Annex B): 44m from the north west corner – UK Waste Management Ltd, authorised for chromium, copper, lead, nickel, zinc discharged to the North Sea.

### **Part A(2) and Part B Activities and Enforcements**

**2.10.4** Three current permits are recorded within the Study Area and five current permits within 250m of the Study Area:



- Part B permit - L J Steward for unloading of petrol into storage at service station, South Quay Service Station Southgate Road.
- Part B permit - L J Steward for unloading of petrol into storage at service station, Southtown Road Service Station Southtown Road.
- Part B permit – CEBO (UK) Ltd for use of bulk cement at Gas House, Quay North, Malthouse Lane.

**2.10.5** There are a further five permits within 250m of the Study Area for various processes – use of bulk cement (four permits) and one permit for ‘other metal process’.

### **Licensed Discharge Consents**

**2.10.6** There are four active consents within the Study Area for discharge to the River Yare and three consents within 250m of the Study Area for discharge to the River Yare. A number of revoked records are reported by GroundSure but these are not listed here:

- Three records within the Study Area relate to water company discharge - sewage discharge from storm overflow (two records) and sewage discharge pumping station (one record).
- One record within the Study Area relates to a trade discharge for site drainage (contaminated surface water).
- Two records outside the Study Area – 41m east and 189m south east relate to sewage discharge for final / treated effluent (not water company related).
- One record 203m to the south east of the Study Area relates to water company sewage discharge from storm overflow.

### **Water Industry Referrals**

**2.10.7** Two records within the Study Area (Weatherford UK Ltd and Great Yarmouth Port Company) and two records within 250m (Total Reclaim Systems Ltd 13m south east of the Study Area and Biffa Waste Services Ltd 167m north of the Study Area) are reported by GroundSure.

### **Planning Hazardous Substance Consents and Enforcements**

**2.10.8** One approved record is reported within the Study Area for Transco Plc. No further details are provided.

### **COMAH and NIHHS Sites**

**2.10.9** There are two records within the Study Area and one record outside the Study Area:



- British Gas Historical Notification of Installations Handling Hazardous Substances 'NIHHS' site located on the east side of the Study Area.
- ASCO UK Ltd Current Control of Major Accident Hazards (COMAH) site located within the Study Area close to the southern boundary adjacent to the River Yare.
- ASCO UK Ltd current COMAH site located 15m to the south of the Study Area adjacent to the east bank of the River Yare.

### National Incidents Recording System, List 2

**2.10.10** Three pollution incidents within the Study Area and one incident within 250m of the Study Area are recorded:

- The three incidents within the Study Area related to pollution from food and drink (minor water impact), inorganic chemical or product (no impact) and tyres (minor land impact).
- The incident 230m to the south of the Study Area related to solvents (minor air impact).

## 2.11 Natural Ground Hazards

**2.11.1** Table 2.3 below summarises the natural ground subsidence findings presented in the GroundSure report.

*Table 2.3: Summary of Natural Ground Hazards*

Natural Hazard	Hazard Potential
<b>Shrink Swell Clay</b>	Negligible – majority of the Study Area.  Low – narrow corridor in the centre of the Study Area associated with the River Yare.
<b>Landslides</b>	Very Low
<b>Dissolution of Soluble Rocks</b>	Negligible
<b>Compressible Ground</b>	Very Low – majority of the Study Area.

Natural Hazard	Hazard Potential
	<p>Moderate - narrow corridor in the centre of the Study Area associated with the River Yare.</p> <p>Negligible – far eastern part of the Study Area.</p> <p>High – Two distinct areas on the southern boundary to the west of the River Yare.</p>
<b>Collapsible Deposits</b>	Negligible
<b>Running Sand</b>	<p>Very Low - majority of the Study Area.</p> <p>Moderate – narrow corridor in the centre of the Study Area associated with the River Yare.</p>

## 2.12 Mining, Extraction and Natural Cavities

- 2.12.1 The Study Area is not in an area likely to be affected by historical mining, coal mining, non-coal mining, natural cavities, brine extraction, gypsum extraction, tin mining or clay mining.

## 2.13 Radon

- 2.13.1 The GroundSure report indicates the Study Area is not in a radon affected area and any new buildings if required as part of the proposed development do not require radon protection measures.

## 2.14 Part 2A Determination

- 2.14.1 GroundSure does not record any sites determined as contaminated land under Part2A of the Environmental Protection Act 1990.

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## **2.15 Unexploded Ordnance**

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- 2.15.1** A review of the potential for unexploded ordnance (UXO) has been obtained from Zetica Ltd and is presented in Annex D. The assessment indicates the Great Yarmouth area is a high bomb risk. Any intrusive works should take the potential for UXO into consideration when planning and undertaking works.

## **2.16 Existing Reports**

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- 2.16.1** WSP Ltd has not been made aware of any existing reports within the Study Area related to contaminated land.

## **2.17 Ground Model**

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- 2.17.1** The Study Area is generally level and densely developed. Published geology indicates superficial deposits comprise peat (south west), clay and silt (north), sand / gravel (east) and clay / silt tidal river / creek deposits within the River Yare. Bedrock underlying the Study Area is sand and gravel of the Crag Group.
- 2.17.2** Historical mapping indicates the Study Area, particularly either side of the River Yare, has been developed by industry since at least 1883. Some residential properties have been present and the far western area was developed later compared to the eastern part of the Study Area. Identified historical industry includes three gasworks, boat building, icehouse, iron works, railways, maltings, rope walk, saw mill / timber yard, allotments, oilskin works, fish canning, various unspecified depots, warehouses and factories, numerous unspecified sites with tanks, shoe factory and printing works. Many of these historical uses could have resulted in potentially significant sources of contamination being present.

## **2.18 Potential Contaminant Linkages**

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### **Potential Sources**

- 2.18.1** Table 2.4 below summarises the potential sources of contamination.

*Table 2.4: Potential Sources*

Ref.	Primary Source	Expected Distribution	Likely Contaminants
<b>S1</b>	Potentially Contaminated Made Ground	Made ground is expected site wide, but contamination is likely to be in discontinuous pockets associated with differing historic industrial uses.	Heavy metals, asbestos, hydrocarbons, polychlorinated biphenyls, organotins and organochloride pesticides, ammonia, polyaromatic hydrocarbons, volatile and semi-volatile organic compounds.
<b>S2</b>	Potentially Contaminated Silt	Within the River Yare or immediately adjacent within the historic quayside area. Potential for mobilisation during the construction works or scoured due to changes in waterflow post construction.	Heavy metals, organotins, polychlorinated biphenyls, hydrocarbons, organochloride pesticides, ammonia, polyaromatic hydrocarbons, volatile and semi-volatile organic compounds.

### Potential Receptors

2.18.2 Table 2.5 below details the potential receptors.

*Table 2.5: Potential Receptors*

Ref.	Receptor	Description
<b>R1</b>	Site users	Pedestrians and maintenance workers
<b>R2</b>	Adjacent site users	Residents (including children) and users of nearby properties (visitors and employees)
<b>R3</b>	Controlled waters	Principal and Secondary (A) aquifers and surface watercourses
<b>R4</b>	On site infrastructure / ecology	Buildings, foundations, buried services and ecology (eg trees and plants in landscaping areas)
<b>R5</b>	Marine ecology	Vertebrates and invertebrates within the River Yare and the adjacent sea.

### Potential Pathways

2.18.3 Table 2.6 below details the potential pathways.

*Table 2.6: Potential Pathways*

Ref.	Pathway	Description
<b>P1</b>	Direct contact	Soil contaminants could come into direct contact with the site users.
<b>P2</b>	Ingestion	Soil derived contaminants could be ingested.
<b>P3</b>	Inhalation of fugitive dust	During dry dusty conditions, contaminated dust could be inhaled by site users and adjacent site users.
<b>P4</b>	Leaching and vertical / lateral migration of contaminants	Contaminants could leach and migrate into the underlying aquifers and the surface watercourse including as a result of construction activities such as piling.
<b>P5</b>	Migration and inhalation of landfill / ground gas	Ground / landfill gas could be generated by fill materials

## 2.19 Risk Evaluation

**2.19.1** Each potential contaminant linkage is identified in Table 3.3 below. This assumes redevelopment with no remediation. An evaluation of the risk that each contaminant linkage poses to the Scheme has been undertaken in general accordance with CIRIA guidance document (Ref 16B.5). Risk classification matrices are presented in Annex E.

**2.19.2** The evaluation and the resultant actions identified are based on the available information presented within this report.



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**2.19.3** During construction, there is a potential for short term risk to site users and adjacent site users (including construction workers and the general public). These should be assessed and mitigated by the construction Contractor under the CDM 2015 Regulations (Ref 16B.6).

**2.19.4** Table 2.7 below details the potential pathways.

*Table 2.7: Summary of Potential Contaminant Linkages*

1. Hazard Identification		2. Hazard Assessment		3. Risk Estimation		4. Risk Evaluation	5. Managing the Risks
Contaminant Source	Receptor	Pathway	Consequence of Risk Being Realised	Probability of Risk Being Realised	Classification	Discussion / Action Required	
S1. Potentially Contaminated Made Ground	R1. Site Users	P1. Direct Contact	Medium	Unlikely	Low	Due to the previous uses across the Study Area, an environmental ground investigation was undertaken to assess the potential contaminant linkages identified in this table.	
		P2. Ingestion	Medium	Unlikely	Low		
		P3. Inhalation of Fugitive Dust	Medium	Low	Moderate		
		P5. Migration and Inhalation of Landfill / Ground Gas	Minor	Unlikely	Very Low		
	R2. Adjacent Site Users		Minor	Unlikely	Very Low		
		P3. Inhalation of Fugitive Dust	Medium	Low	Moderate		
	R3. Controlled Waters	P4. Leaching and Vertical / Lateral Migration of Contaminants	Severe	Likely	High		
	R4. Site Infrastructure	P1. Direct Contact	Mild	Likely	Moderate / Low		
	R5. Marine Ecology		Severe	Likely	High		
	P2. Ingestion	Severe	Likely	High			



1. Hazard Identification		2. Hazard Assessment		3. Risk Estimation		4. Risk Evaluation	5. Managing the Risks
Contaminant Source	Receptor	Pathway	Consequence of Risk Being Realised	Probability of Risk Being Realised	Classification	Discussion / Action Required	
		P4. Leaching and Vertical / Lateral Migration of Contaminants	Severe	Likely	High		
S2. Potentially Contaminated Silt	R3. Controlled Waters	P4. Leaching and Vertical / Lateral Migration of Contaminants	Severe	Likely	High		
	R4. Site Infrastructure	P1. Direct Contact	Mild	Low	Low		
	R5. Marine Ecology		Severe	Likely	High		
		P2. Ingestion	Severe	Likely	High		
		P4. Leaching and Vertical / Lateral Migration of Contaminants	Severe	Likely	High		

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## **2.20 Potential Waste and Sustainability Considerations**

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- 2.20.1** Surplus soils may be generated during the Scheme construction works. It is possible that these would need to be disposed of offsite to a suitably licensed facility if they cannot be proven to meet the requirements for re-use within The Scheme under a Materials Management Plan (to be secured as part of a CoCP (document reference 6.16) under Requirement 5 of the DCO (document reference 3.1).

## **2.21 Safety, Health and Environmental Considerations**

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- 2.21.1** With respect to any further ground investigation, the Study Area should be classified in accordance with the “Guideline Notes for the Safe Investigation by Drilling of Landfills and Contaminated Land” (Ref 16B.7). This document makes recommendations for carrying out site investigation on landfills and potentially contaminated ground. Appendix IV of the guidance sets out a record of assessment for potentially contaminated sites, to be completed as part of the ground investigation contract.
- 2.21.2** Site personnel involved with any intrusive works, including site investigations, construction or maintenance works should be appropriately qualified with experience of working on potentially contaminated sites. Those working in close proximity to fill materials should wear appropriate personal protective equipment. A reasonable standard of hygiene should be maintained.

## **2.22 Ground Investigation**

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- 2.22.1** A ground investigation was recommended in the July 2017 version of this report. This was subsequently undertaken in 2017 / 2018 to inform the baseline assessment for the Geology and Soils Chapter 16 of the Environmental Statement (document reference 6.1). The ground investigation included sampling and chemical testing of the major strata encountered together with gas and groundwater monitoring. The findings are presented in the Interpretative Environmental Ground Investigation Report dated March 2019 presented as Appendix 16C of the Environmental Statement.

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## 3 Conclusions

### 3.1 Key Findings

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- 3.1.1 The desk study has indicated that the Study Area was reasonably well developed by the late 1800's with some residential properties but mostly commercial / industrial development, particularly the area immediately bounding the River Yare.
- 3.1.2 The Study Area is expected to be underlain by demolition and fill material which could be contaminated. Ground gas / landfill gas may be generated by the fill material and could migrate to impact adjacent site users and infrastructure.
- 3.1.3 From the information reviewed above, contaminated made ground is expected but is unlikely to be sufficiently contaminated or sufficiently widespread to pose a significant constraint for an infrastructure project such as this.
- 3.1.4 Due to the potential for contaminated made ground and / or silts to be present within the Study Area derived from a variety of former industrial uses, the potential for environmental liabilities are considered to be; **high** for controlled waters and marine ecology receptors and in the range **Moderate** to **Very Low** for site users, adjacent site users and infrastructure receptors. The high risks are associated with the controlled waters and marine ecology receptors. It is unknown if historic remedial works occurred during redevelopment at any of the potentially contaminative sites such as the iron works or the gas works and this could reduce the potential for environmental liabilities.

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## 4 Limitations

- 4.1.1 Only publicly accessible areas were assessed during the walkover.
- 4.1.2 This report is presented to Norfolk County Council in respect of the Scheme and may not be used or relied on by any other person or by the client in relation to any other matters not covered specifically by the scope of this Report.
- 4.1.3 Notwithstanding anything to the contrary contained in the report, WSP Limited is obliged to exercise reasonable skill, care and diligence in the performance of the services required by Norfolk County Council and WSP Limited shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.
- 4.1.4 This report has been prepared by WSP Limited. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, the client or any other person accepts that no individual is personally liable whether in contract, tort, for breach of statutory duty or otherwise.
- 4.1.5 The brief includes an assessment of the previous site usage by review of the sources identified in this report. These effectively provide snapshots of the site through time and although a consistent sequence of site usage has been deduced from these records, the possibility of some activity carried out on the site not being identified on these records cannot be excluded.
- 4.1.6 New information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

## 5 References

Ref 16B.1: The Environment Act (1995). The Stationary Office 1995

[https://www.legislation.gov.uk/ukpga/1995/25/pdfs/ukpga\\_19950025\\_en.pdf](https://www.legislation.gov.uk/ukpga/1995/25/pdfs/ukpga_19950025_en.pdf)

Ref 16B.2: The Environment Protection Act (1990). The Stationary Office 1990

[https://www.legislation.gov.uk/ukpga/1990/43/pdfs/ukpga\\_19900043\\_en.pdf](https://www.legislation.gov.uk/ukpga/1990/43/pdfs/ukpga_19900043_en.pdf)

Ref 16B.3: Ministry of Housing, Communities & Local Government (2019). National Planning Policy Framework.

Ref 16B.4: The Environment Agency (2004). Model Procedures for the Management of Land Contamination. Contaminated Land Report 11.

Ref 16B.5: CIRIA (2001). Contaminated Land Risk Assessment – A guide to good practice. C552.

Ref 16B.6: The Construction (Design & Management) Regulations (2015). The Stationary Office 2015.

[http://www.legislation.gov.uk/uksi/2015/51/pdfs/uksi\\_20150051\\_en.pdf](http://www.legislation.gov.uk/uksi/2015/51/pdfs/uksi_20150051_en.pdf)

Ref 16B.7: Site investigation in Construction (1993). Guidelines for the Safe Investigation by Drilling of Landfills and Contaminated Land (Site Investigation in Construction) Pt.4. Institute of Civil Engineers.



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## Annex A: Photographs

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GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 1 – Barrack Road Gasworks



Photograph 2 – Barrack Road Gasworks





GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 3 – Electricity Substation on Southgates Road



Photograph 4 – Residential Properties on Admiralty Road





GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 5 – ASCO Ltd storage tanks



Photograph 6 – Commercial Industrial properties on Southgates Road



GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 7 – Entrance to quayside properties off South Denes Road



Photograph 8 – Access to Butler Fuels and quayside properties from South Denes Road





GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 9 – Quayside adjacent to Southtown Road



Photograph 10 – Peterson Ltd storage yard off South Denes Road with gasholder beyond.



GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 11 – Southtown common recreation ground



Photograph 12 – Salthouse Lane





GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 13 – Residential properties and MIND allotments adjacent to William Adams Way



Photograph 14 – William Adams Way



GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 15 – Roundabout – Junction of William Adams Way and A47.



Photograph 16 – Queen Anne's Road

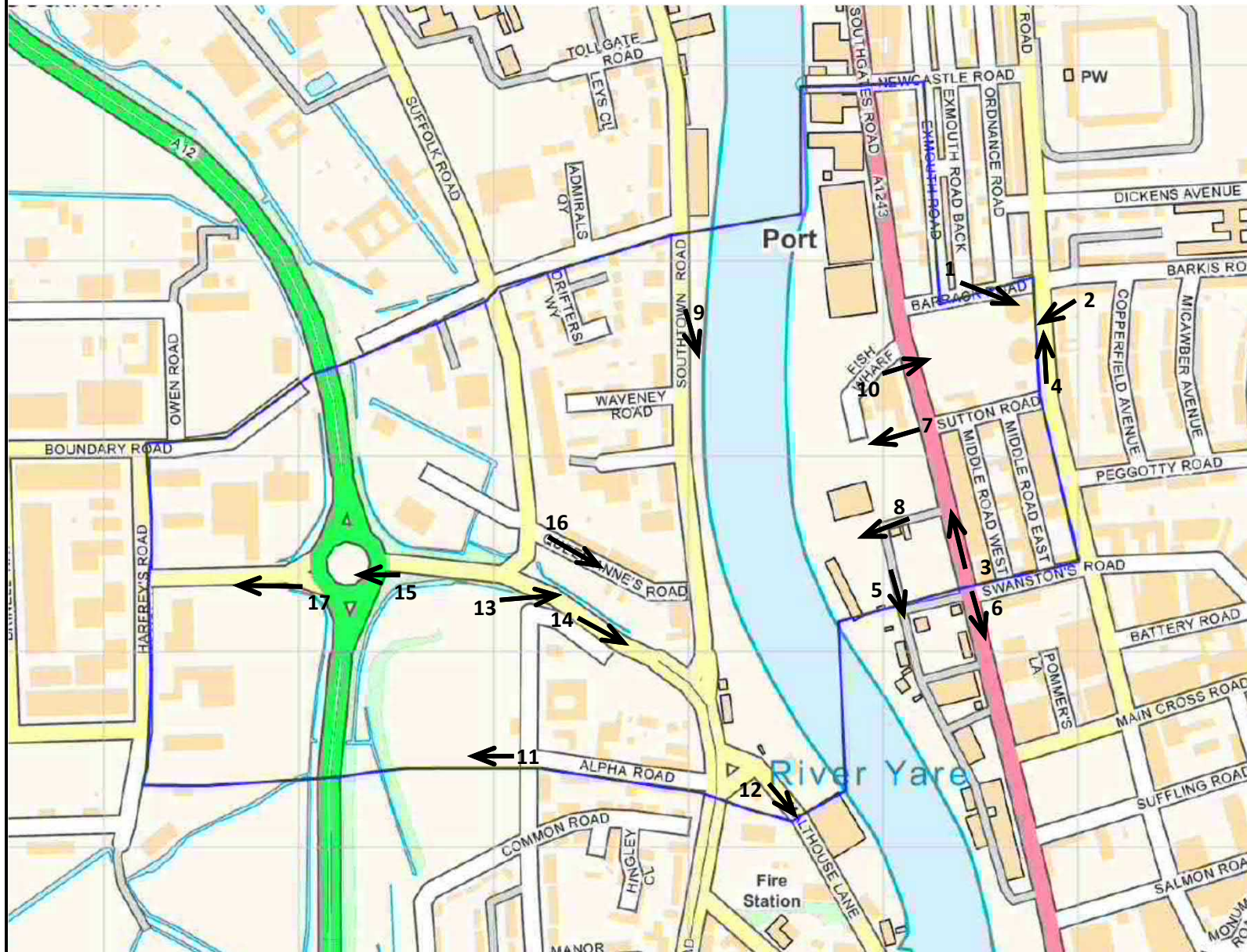




GREAT YARMOUTH THIRD CROSSING  
PHOTOGRAPH LOG

Photograph 17 – William Adams Way





— STUDY AREA BOUNDARY

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DESIGN: JM	WORK IN PROGRESS	
CHKD: NB	PRELIMINARY DRAWING	
APPD: DW	EXTERNAL ISSUE	✓
DATE: 24/7/17	AS-BUILT	
SUITABILITY		

CLIENT

AGENT

SCHEME NAME
Great Yarmouth Third Crossing

DRAWING TITLE
Photograph Location Drawing

ORIG DRAWING SIZE: A3	DIMENSIONS: m
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LOCATION	TYPE	ROLE	NUMBER
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## Annex B: Groundsure Report

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CENTREMAPS

Open Space, Upper Interfields,  
Worcester, WR14 1UT

Groundsure Reference: CMAPS-CM-636391-16287-030717EDR

Your Reference: 16287

Report Date 3 Jul 2017

Report Delivery Method: Email - pdf

## Enviro Insight

Address: ,

Dear Sir/ Madam,

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

If you need any further assistance, please do not hesitate to contact our helpline on 01886 832972 quoting the above CENTREMAPS reference number.

Yours faithfully,

CENTREMAPS

Enc.  
Groundsure Enviroinsight

Address: ,  
Date: 3 Jul 2017  
Reference: CMAPS-CM-636391-16287-030717EDR  
Client: CENTREMAPS

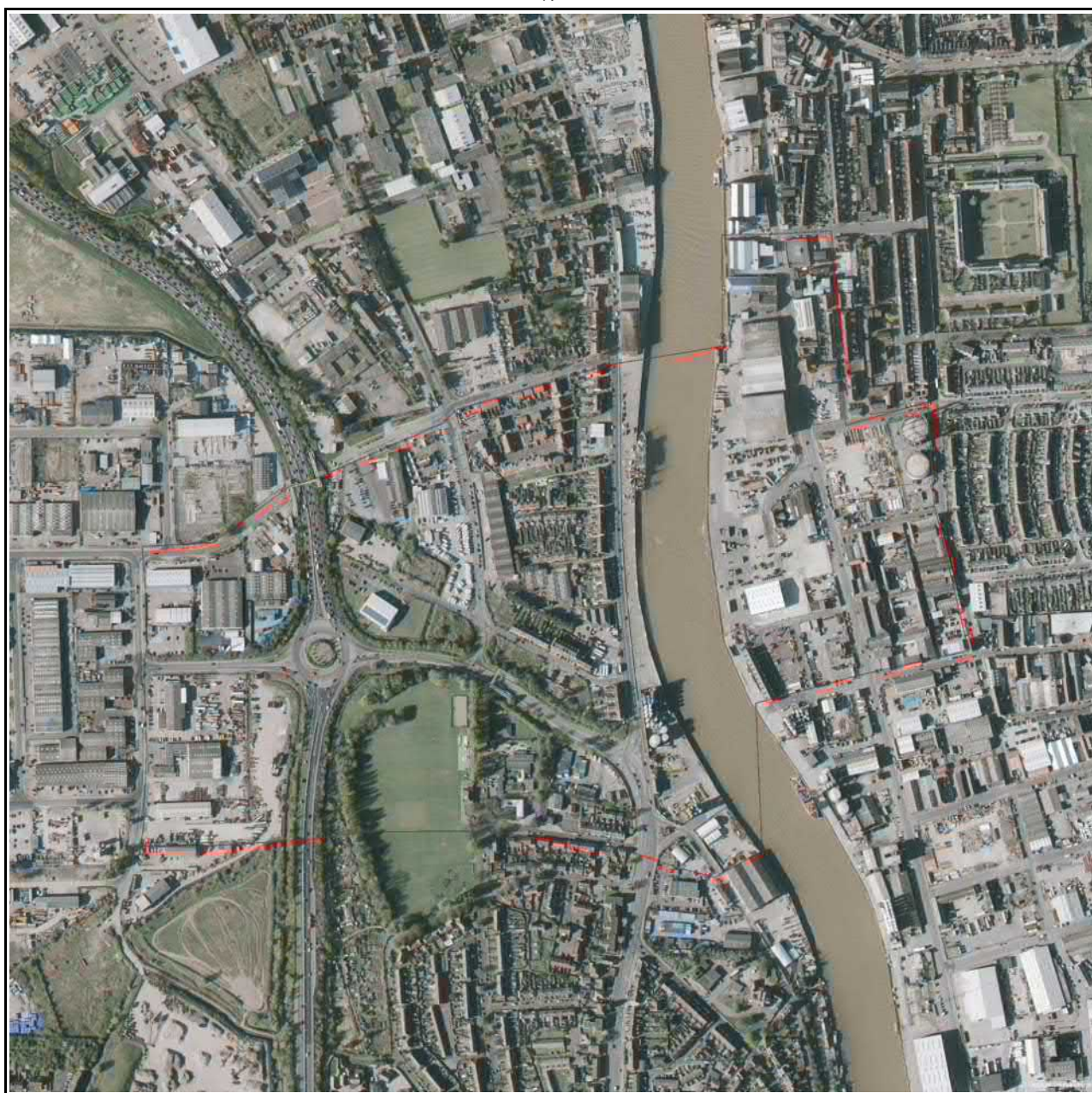
NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 16-Apr-2014  
Grid Reference: 652320,306005  
Site Size: 43.58ha

Report Reference: CMAPS-CM-636391-16287-030717EDR  
Client Reference: 16287

# Contents Page

Contents Page	3
Overview of Findings	6
Using this report	10
1. Historical Land Use	11
1. Historical Industrial Sites	12
1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping	12
1.2 Additional Information – Historical Tank Database	18
1.3 Additional Information – Historical Energy Features Database	27
1.4 Additional Information – Historical Petrol and Fuel Site Database	32
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	32
1.6 Potentially Infilled Land	34
2. Environmental Permits, Incidents and Registers Map	36
2. Environmental Permits, Incidents and Registers	37
2.1 Industrial Sites Holding Licences and/or Authorisations	37
2.1.1 Records of historic IPC Authorisations within 500m of the study site	37
2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site	37
2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site	41
2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site	41
2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site	41
2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site	42
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	44
2.1.8 Records of Licensed Discharge Consents within 500m of the study site	44
2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site	50
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	51
2.2 Dangerous or Hazardous Sites	51
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents	52
2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site	52
2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site	53
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	53
3. Landfill and Other Waste Sites Map	54
3. Landfill and Other Waste Sites	55
3.1 Landfill Sites	55
3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site	55
3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site	55
3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site	55
3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site	56
3.2 Other Waste Sites	56
3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site	56
3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site	59
4. Current Land Use Map	67
4. Current Land Uses	68
4.1 Current Industrial Data	68
4.2 Petrol and Fuel Sites	82
4.3 National Grid High Voltage Underground Electricity Transmission Cables	83
4.4 National Grid High Pressure Gas Transmission Pipelines	83



5. Geology	84
5.1 Artificial Ground and Made Ground.....	84
5.2 Superficial Ground and Drift Geology .....	84
5.3 Bedrock and Solid Geology .....	84
6 Hydrogeology and Hydrology	85
6a. Aquifer Within Superficial Geology	85
6b. Aquifer Within Bedrock Geology and Abstraction Licenses	86
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses	87
6d. Hydrogeology – Source Protection Zones within confined aquifer	88
6e. Hydrology – Detailed River Network and River Quality	89
6.Hydrogeology and Hydrology	90
6.1 Aquifer within Superficial Deposits.....	90
6.2 Aquifer within Bedrock Deposits.....	90
6.3 Groundwater Abstraction Licences.....	91
6.4 Surface Water Abstraction Licences.....	91
6.5 Potable Water Abstraction Licences.....	91
6.6 Source Protection Zones.....	92
6.7 Source Protection Zones within Confined Aquifer.....	92
6.8 Groundwater Vulnerability and Soil Leaching Potential.....	92
6.9 River Quality.....	92
6.9.1 Biological Quality:.....	93
6.9.2 Chemical Quality:.....	93
6.10 Detailed River Network.....	93
6.11 Surface Water Features.....	94
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)	95
7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS)	96
Map	96
7 Flooding	97
7.1 River and Coastal Zone 2 Flooding.....	97
7.2 River and Coastal Zone 3 Flooding.....	97
7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating.....	97
7.4 Flood Defences.....	98
7.5 Areas benefiting from Flood Defences.....	98
7.6 Areas benefiting from Flood Storage.....	98
7.7 Groundwater Flooding Susceptibility Areas.....	98
7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes.....	98
7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?.....	99
7.8 Groundwater Flooding Confidence Areas.....	99
8. Designated Environmentally Sensitive Sites Map	100
8. Designated Environmentally Sensitive Sites	101
8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:.....	101
8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:.....	101
8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:.....	101
8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:.....	101
8.5 Records of Ramsar sites within 2000m of the study site:.....	102
8.6 Records of Ancient Woodland within 2000m of the study site: .....	102
8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:.....	102
8.8 Records of World Heritage Sites within 2000m of the study site:.....	102
8.9 Records of Environmentally Sensitive Areas within 2000m of the study site: .....	103

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site: .....	103
8.11 Records of National Parks (NP) within 2000m of the study site: .....	103
8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:.....	103
8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:.....	104
8.14 Records of Green Belt land within 2000m of the study site:.....	104
<b>9. Natural Hazards Findings</b>	<b>105</b>
9.1 Detailed BGS GeoSure Data.....	105
9.1.1 Shrink Swell.....	105
9.1.2 Landslides.....	105
9.1.3 Soluble Rocks.....	105
9.1.4 Compressible Ground.....	106
9.1.5 Collapsible Rocks.....	106
9.1.6 Running Sand.....	106
9.2 Radon.....	106
9.2.1 Radon Affected Areas.....	106
9.2.2 Radon Protection.....	107
<b>10. Mining</b>	<b>108</b>
10.1 Coal Mining.....	108
10.2 Non-Coal Mining.....	108
10.3 Brine Affected Areas .....	108
<b>Contact Details</b>	<b>109</b>
<b>Standard Terms and Conditions</b>	<b>111</b>

# Overview of Findings

For further details on each dataset, please refer to each individual section in the main 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: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	104	25	64	92
1.2 Additional Information – Historical Tank Database	176	28	71	93
1.3 Additional Information – Historical Energy Features Database	92	33	37	53
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	28	2	30	8
1.6 Potentially Infilled Land	23	2	18	38
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	21	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	1	0	0	1
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	2	2	5
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	3	2	5	6
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	1	0
2.1.8 Records of Licensed Discharge Consents	15	3	8	15
2.1.9 Records of Water Industry Referrals	2	1	1	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	1	0	1	0
2.2 Records of COMAH and NIHHS sites	2	1	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	3	0	1	9
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
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### 3.1 Landfill Sites

3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	1	0	1
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0

### 3.2 Landfill and Other Waste Sites Findings

3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	2	0	11	1	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	2	3	15	5	5	5

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	106	47	167	Not searched
4.2 Records of Petrol and Fuel Sites	2	0	0	1
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	1	0	0	1
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	1	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	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)	2	0	0	1	Not searched	Not searched



## Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	1	0	0	0	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

## Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes					
7.2 Are there any Environment Agency/Natural Resources Wales 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?	High					
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?	Limited potential					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Low					

## 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	3
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	1	0	1
8.5 Records of Ramsar sites	0	0	0	0	0	1
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	1
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	1	0	1

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	1	1
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	0	0	1
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?	High
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	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?	High
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?	Moderate
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?	No
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.

11



# 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: 285

ID	Distance [m]	Direction	Use	Date
1F	0	On Site	Unspecified Depot	1978
2BX	0	On Site	Sawmills	1904
3A	0	On Site	Unspecified Tank	1952
4A	0	On Site	Unspecified Tank	1978
5A	0	On Site	Unspecified Tank	1988
6A	0	On Site	Unspecified Tank	1938
7A	0	On Site	Gasometer	1904
8	0	On Site	Unspecified Commercial/Industrial	1978
9B	0	On Site	Quay	1978
10B	0	On Site	Quay	1988
11B	0	On Site	Quay	1952
12C	0	On Site	Unspecified Tank	1952
13C	0	On Site	Unspecified Tank	1884
14C	0	On Site	Unspecified Tanks	1946
15C	0	On Site	Gasometer	1904
16C	0	On Site	Unspecified Tanks	1938
17D	0	On Site	Unspecified Commercial/Industrial	1938
18C	0	On Site	Gasometer	1884
19D	0	On Site	Gas Works	1904
20D	0	On Site	Unspecified Commercial/Industrial	1946
21C	0	On Site	Unspecified Tank	1952
22D	0	On Site	Unspecified Commercial/Industrial	1952
23D	0	On Site	Gas Works	1884
24D	0	On Site	Quay	1904
25D	0	On Site	Quay	1946
26E	0	On Site	Quay	1988
27E	0	On Site	Quay	1978
28F	0	On Site	Unspecified Depot	1988
29I	0	On Site	Iron Works	1884
30	0	On Site	Unspecified Factory	1978
31	0	On Site	Unspecified Works	1978
32A	0	On Site	Gas Holder Station	1988

33EN	0	On Site	Unspecified Wharf	1988
34D	0	On Site	Quay	1938
35B	0	On Site	Quay	1938
36D	0	On Site	Quay	1938
37B	0	On Site	Quay	1938
38G	0	On Site	Quay	1946
39G	0	On Site	Quay	1904
40	0	On Site	Industrial Estate	1988
41H	0	On Site	Quay	1978
42H	0	On Site	Quay	1988
43I	0	On Site	Iron Works	1901
44C	0	On Site	Gasometers	1901
45D	0	On Site	Gas Works	1901
46J	0	On Site	Quay	1938
47J	0	On Site	Quay	1938
48J	0	On Site	Malthouses	1884
49J	0	On Site	Unspecified Works	1988
50J	0	On Site	Quay	1978
51J	0	On Site	Malthouse	1904
52J	0	On Site	Malthouse	1946
53K	0	On Site	Unspecified Wharf	1946
54K	0	On Site	Unspecified Wharf	1904
55K	0	On Site	Fish Wharf	1938
56L	0	On Site	Railway Sidings	1938
57DK	0	On Site	Unspecified Wharf	1978
58L	0	On Site	Railway Sidings	1904
59L	0	On Site	Railway Sidings	1946
60BR	0	On Site	Railway Sidings	1946
61	0	On Site	Unspecified Depot	1988
62EM	0	On Site	Unspecified Wharf	1884
63M	0	On Site	Unspecified Tank	1946
64M	0	On Site	Gasometer	1904
65M	0	On Site	Unspecified Tank	1938
66M	0	On Site	Unspecified Tank	1952
67M	0	On Site	Unspecified Tank	1884
68M	0	On Site	Gasometer	1901
69M	0	On Site	Unspecified Commercial/Industrial	1946
70M	0	On Site	Gas Works	1904
71N	0	On Site	Unspecified Tank	1988
72N	0	On Site	Unspecified Tank	1978
73M	0	On Site	Unspecified Commercial/Industrial	1938
74P	0	On Site	Unspecified Depot	1988
75M	0	On Site	Gas Works	1884
76M	0	On Site	Unspecified Commercial/Industrial	1952

77M	0	On Site	Gas Works	1901
78M	0	On Site	Unspecified Depot	1988
79M	0	On Site	Gas Holder Station	1978
80O	0	On Site	Unspecified Tanks	1946
81O	0	On Site	Gasometers	1904
82P	0	On Site	Railway Sidings	1952
83P	0	On Site	Railway Sidings	1978
84O	0	On Site	Unspecified Tanks	1938
85O	0	On Site	Unspecified Tank	1952
86O	0	On Site	Unspecified Tank	1952
87O	0	On Site	Gasometer	1884
88O	0	On Site	Gasometer	1901
89O	0	On Site	Unspecified Tank	1988
90O	0	On Site	Unspecified Tank	1978
91	0	On Site	Ice House	1901
92Q	0	On Site	Unspecified Tank	1904
93Q	0	On Site	Unspecified Tank	1946
94Q	0	On Site	Unspecified Tank	1938
95Q	0	On Site	Unspecified Tank	1884
96Q	0	On Site	Unspecified Tanks	1901
97Q	0	On Site	Unspecified Tank	1884
98	0	On Site	Unspecified Commercial/Industrial	1901
99R	0	On Site	Unspecified Warehouse	1978
100R	0	On Site	Boat Building Yard	1884
101R	0	On Site	Unspecified Warehouse	1988
102R	0	On Site	Boat Building Yards	1901
103J	0	On Site	Malthouses	1901
104S	0	N	Unspecified Stores	1901
105S	2	N	Unspecified Stores	1884
106DN	3	N	Rope Walk	1901
107T	5	E	Militia Barracks	1901
108N	5	E	Drill Shed	1901
109W	6	E	Unspecified Commercial/Industrial	1988
110T	7	E	Barracks	1904
111N	7	E	Drill Shed	1884
112	8	E	Hospital	1904
113U	10	S	Unspecified Works	1978
114U	10	S	Unspecified Works	1988
115X	10	N	Timber Yard	1988
116V	11	S	Unspecified Commercial/Industrial	1946
117V	12	S	Unspecified Depot	1978
118	12	N	Unspecified Mill	1952
119V	13	S	Unspecified Commercial/Industrial	1938

120V	15	S	Unspecified Works	1952
121	16	N	Barracks	1901
122CJ	17	S	Electric Works	1904
123	18	NW	Unspecified Depot	1978
124	20	E	Rope Walk	1884
125	25	N	Unspecified Warehouses	1978
126W	42	E	Fish Wharf	1952
127X	42	N	Engine House	1904
128Y	42	N	Engine House	1946
129Y	45	N	Engine House	1938
130AB	52	N	Dock	1946
131CO	53	S	Malthouse	1978
132CK	55	N	Sawmills	1884
133W	67	E	Railway Sidings	1884
134W	70	E	Unspecified Tank	1988
135	70	N	Rope Walk	1901
136Z	73	SE	Quay	1946
137Z	73	SE	Quay	1904
138AA	76	N	Hospital	1904
139AA	76	N	Hospital	1946
140AA	79	N	Hospital	1938
141AC	79	W	Sawmills	1904
142CL	80	E	Unspecified Tanks	1988
143AB	81	W	Sawmills	1938
144AC	81	W	Sawmills	1946
145AC	81	W	Sawmills	1901
146AA	81	N	Hospital	1884
147	82	N	Naval Hospital	1901
148AD	84	N	Hospital	1988
149AD	84	N	Hospital	1978
150AD	84	N	Hospital	1952
151AE	98	S	Fire Station	1978
152AE	98	S	Fire Station	1988
153	99	NW	Timber Yard	1884
154AC	100	NW	Timber Yard	1901
155AF	100	NW	Timber Shed	1978
156AF	100	NW	Timber Shed	1988
157AB	108	NW	Timber Yard	1904
158EP	117	E	Sand Pit	1884
159AG	119	E	Unspecified Commercial/Industrial	1988
160AB	121	NW	Timber Yard	1901
161EQ	124	SE	Quay	1988
162CP	127	N	Dry Docks	1904
163AB	130	NW	Timber Yard	1884
164	131	E	Barracks	1884



165AQ	146	S	Railway Sidings	1938
166AG	150	SE	Unspecified Tanks	1988
167	158	W	Unspecified Warehouses	1978
168	160	S	Corn Mill	1884
169	162	S	Corn Windmill	1901
170AJ	164	SE	Quay	1946
171	167	N	Rope Walk	1884
172AH	169	SE	Quay	1978
173AH	169	SE	Quay	1988
174AH	170	SE	Unspecified Quay	1901
175AH	172	SE	Quay	1904
176AH	172	SE	Quay	1946
177AF	174	NW	Boat Building Yard	1901
178AI	175	S	Unspecified Depot	1988
179AI	175	S	Unspecified Factory	1978
180AF	185	NW	Boat Building Yard	1884
181DB	188	SE	Quay	1978
182AJ	188	SE	Quay	1952
183AK	203	NE	Unspecified Ground Workings	1938
184AK	203	NE	Unspecified Ground Workings	1938
185CV	205	E	Unspecified Depot	1988
186AH	230	SE	Quay	1938
187AH	230	SE	Quay	1938
188	236	W	Industrial Estate	1988
189AL	239	N	Timber Yard	1901
190AW	240	NW	Unspecified Commercial/Industrial	1901
191AL	240	N	Timber Yard	1884
192AD	249	NE	Unspecified Pit	1901
193	250	N	Unspecified Depot	1978
194	252	W	Unspecified Warehouse	1978
195AM	258	N	Unspecified Commercial/Industrial	1988
196AM	258	N	Unspecified Commercial/Industrial	1978
197AN	259	N	Railway Sidings	1978
198AN	259	N	Railway Sidings	1988
199AO	261	SE	Unspecified Factory	1988
200AO	261	SE	Unspecified Factory	1978
201AP	264	N	Railway Sidings	1988
202AP	264	N	Railway Sidings	1978
203	266	S	Unspecified Factory	1952
204AR	269	W	Unspecified Pit	1901
205AQ	270	S	Railway Station	1938
206AQ	271	S	Railway Station	1946

207AQ	271	S	Railway Station	1904
208DF	277	SE	Quay	1988
209AR	279	W	Unspecified Pit	1884
210AR	280	W	Unspecified Pit	1904
211AR	280	W	Unspecified Pit	1946
212AR	291	W	Unspecified Heap	1938
213AR	291	W	Unspecified Heap	1938
214AS	295	N	Dry Dock	1988
215AS	295	N	Dry Dock	1978
216DU	296	SE	Paddock	1901
217AR	298	W	Unspecified Pit	1952
218AT	301	E	Unspecified Commercial/Industrial	1952
219AT	301	E	Unspecified Commercial/Industrial	1988
220AT	301	E	Unspecified Commercial/Industrial	1978
221AV	302	E	Railway Sidings	1946
222DC	303	SE	Refuse Heap	1884
223AU	311	E	Railway Sidings	1988
224AU	311	E	Railway Sidings	1978
225AV	311	E	Railway Sidings	1952
226AS	316	N	Dry Docks	1938
227AS	316	N	Dry Docks	1938
228AW	317	NW	Ice House	1901
229AS	329	N	Dry Docks	1904
230AS	329	N	Dry Docks	1946
231AX	332	E	Railway Sidings	1938
232AX	332	E	Unspecified Commercial/Industrial	1938
233AS	345	N	Unspecified Works	1952
234BB	351	E	Unspecified Tank	1938
235AS	362	NW	Timber Yard	1884
236AS	364	NW	Timber Yard	1901
237BP	367	W	Cuttings	1884
238AY	371	E	Unspecified Tank	1978
239AY	371	E	Unspecified Tank	1988
240BA	371	NE	Telegraph House	1901
241AZ	373	SE	Unspecified Works	1952
242AZ	373	SE	Unspecified Works	1978
243AZ	373	SE	Unspecified Works	1988
244BA	374	NE	Telegraph House	1884
245BB	375	E	Unspecified Tanks	1978
246BB	375	E	Unspecified Tanks	1988
247BC	378	NW	Unspecified Works	1978
248BC	378	NW	Unspecified Works	1988
249BD	379	SE	Ice Factory	1946

250BD	380	SE	Unspecified Factory	1952
251BD	381	SE	Ice Factory	1938
252BE	382	S	Unspecified Pit	1904
253BE	382	S	Unspecified Pit	1946
254	387	W	Marshes	1901
255BK	390	N	Railway Sidings	1884
256BF	394	N	Unspecified Tanks	1988
257BF	394	N	Unspecified Tanks	1978
258ET	397	NE	Unspecified Heap	1952
259BG	416	SE	Unspecified Works	1988
260BG	416	SE	Unspecified Works	1978
261BH	418	N	Fire Station	1978
262BH	418	N	Fire Station	1988
263BI	436	SE	Quay	1938
264BI	436	SE	Quay	1938
265BO	436	W	Cuttings	1901
266BJ	442	NE	Boat House	1938
267BJ	444	NE	Boat House	1946
268BK	448	N	Railway Sidings	1988
269BK	448	N	Railway Sidings	1978
270BM	448	N	Railway Sidings	1938
271BL	458	S	Unspecified Heap	1978
272BL	458	S	Unspecified Heap	1988
273BN	461	N	Quay	1904
274BM	461	N	Railway Sidings	1946
275BN	461	N	Quay	1946
276BM	461	N	Railway Sidings	1904
277BO	463	W	Cuttings	1938
278BO	464	W	Cuttings	1904
279BO	464	W	Cuttings	1946
280BP	469	W	Cuttings	1952
281BQ	474	SE	Net Works	1946
282BQ	475	SE	Net Works	1938
283BK	476	N	Railway Building	1938
284BQ	477	SE	Unspecified Works	1952
285BO	496	W	Cuttings	1952

## 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:

368

ID	Distance (m)	Direction	Use	Date
286BR	0	On Site	Tanks	1949
287BR	0	On Site	Tanks	1949
288M	0	On Site	Unspecified Tank	1927
289O	0	On Site	Unspecified Tank	1927
290O	0	On Site	Unspecified Tank	1949
291O	0	On Site	Unspecified Tank	1949
292O	0	On Site	Unspecified Tank	1966
293M	0	On Site	Unspecified Tank	1949
294M	0	On Site	Unspecified Tank	1949
295M	0	On Site	Unspecified Tank	1963
296M	0	On Site	Unspecified Tank	1927
297M	0	On Site	Unspecified Tank	1966
298M	0	On Site	Tanks	1949
299M	0	On Site	Tanks	1963
300M	0	On Site	Tanks	1949
301O	0	On Site	Gasometer	1887
302O	0	On Site	Unspecified Tank	1927
303O	0	On Site	Gasometer	1966
304O	0	On Site	Gasometer	1949
305O	0	On Site	Gasometer	1949
306O	0	On Site	Gasometer	1963
307O	0	On Site	Unspecified Tank	1927
308N	0	On Site	Tanks	1966
309N	0	On Site	Unspecified Tank	1966
310M	0	On Site	Gasometer	1887
311M	0	On Site	Unspecified Tank	1927
312M	0	On Site	Gasometer	1949
313M	0	On Site	Gasometer	1966
314M	0	On Site	Gasometer	1949
315M	0	On Site	Gasometer	1963
316M	0	On Site	Unspecified Tank	1927
317M	0	On Site	Unspecified Tank	1949
318M	0	On Site	Unspecified Tank	1963
319M	0	On Site	Unspecified Tank	1949
320N	0	On Site	Unspecified Tank	1949
321BT	0	On Site	Unspecified Tank	1966
322Q	0	On Site	Unspecified Tank	1966
323BS	0	On Site	Unspecified Tank	1966
324Q	0	On Site	Unspecified Tank	1927
325Q	0	On Site	Gasometers	1887
326L	0	On Site	Unspecified Tank	1949

327L	0	On Site	Unspecified Tank	1957
328L	0	On Site	Unspecified Tank	1949
329Q	0	On Site	Unspecified Tank	1966
330BS	0	On Site	Unspecified Tank	1963
331BS	0	On Site	Unspecified Tank	1949
332BT	0	On Site	Unspecified Tank	1949
333BT	0	On Site	Unspecified Tank	1963
334BT	0	On Site	Unspecified Tank	1949
335Q	0	On Site	Unspecified Tank	1963
336Q	0	On Site	Unspecified Tank	1949
337BS	0	On Site	Unspecified Tank	1949
338BS	0	On Site	Unspecified Tank	1963
339BS	0	On Site	Unspecified Tank	1949
340Q	0	On Site	Unspecified Tank	1963
341L	0	On Site	Unspecified Tank	1958
342Q	0	On Site	Unspecified Tank	1949
343N	0	On Site	Unspecified Tank	1963
344N	0	On Site	Unspecified Tank	1949
345O	0	On Site	Unspecified Tank	1927
346O	0	On Site	Gasometer	1966
347O	0	On Site	Gasometer	1949
348BS	0	On Site	Gas Works	1887
349O	0	On Site	Gas Holder	1996
350O	0	On Site	Gasometer	1963
351O	0	On Site	Gasometer	1949
352M	0	On Site	Gasometer	1966
353M	0	On Site	Gas Holder	1996
354N	0	On Site	Unspecified Tank	1949
355N	0	On Site	Unspecified Tank	1963
356BS	0	On Site	Gas Works	1963
357N	0	On Site	Gas Holder Station	1996
358BS	0	On Site	Gas Works	1949
359M	0	On Site	Gas Works	1966
360BU	0	On Site	Unspecified Tank	1968
361BU	0	On Site	Unspecified Tank	1968
362Q	0	On Site	Unspecified Tank	1949
363Q	0	On Site	Unspecified Tank	1949
364BS	0	On Site	Gas Works	1949
365N	0	On Site	Unspecified Tank	1949
366E	0	On Site	Unspecified Tank	1990
367BZ	0	On Site	Unspecified Tank	1990
368BW	0	On Site	Tanks	1990
369BV	0	On Site	Unspecified Tank	1990
370BV	0	On Site	Unspecified Tank	1990
371BW	0	On Site	Tanks	1990
372N	0	On Site	Gas Holder Station	1984

373M	0	On Site	Gas Holder	1984
374O	0	On Site	Gas Holder	1984
375N	0	On Site	Gas Holder Station	1990
376O	0	On Site	Gas Holder	1990
377M	0	On Site	Gas Holder	1990
378Q	0	On Site	Gasometers	1883
379O	0	On Site	Gasometer	1883
380O	0	On Site	Gas Works	1883
381M	0	On Site	Gasometer	1883
382O	0	On Site	Unspecified Tank	1905
383M	0	On Site	Unspecified Tank	1905
384BX	0	On Site	Unspecified Tank	1949
385BX	0	On Site	Unspecified Tank	1951
386BX	0	On Site	Unspecified Tank	1963
387BY	0	On Site	Unspecified Tank	1949
388BY	0	On Site	Unspecified Tank	1951
389BY	0	On Site	Unspecified Tank	1963
390BX	0	On Site	Unspecified Tank	1963
391BX	0	On Site	Unspecified Tank	1949
392BX	0	On Site	Unspecified Tank	1951
393BV	0	On Site	Unspecified Tank	1996
394BV	0	On Site	Unspecified Tank	1975
395BW	0	On Site	Tanks	1996
396BW	0	On Site	Tanks	1975
397A	0	On Site	Gasholder	1949
398A	0	On Site	Unspecified Tank	1958
399A	0	On Site	Gasholder	1968
400A	0	On Site	Unspecified Tank	1927
401A	0	On Site	Gasholder	1949
402A	0	On Site	Gasholder	1976
403A	0	On Site	Gasholder	1967
404BZ	0	On Site	Unspecified Tank	1976
405BZ	0	On Site	Unspecified Tank	1996
406E	0	On Site	Unspecified Tank	1968
407E	0	On Site	Unspecified Tank	1967
408E	0	On Site	Unspecified Tank	1996
409E	0	On Site	Unspecified Tank	1949
410E	0	On Site	Unspecified Tank	1949
411D	0	On Site	Tanks	1949
412D	0	On Site	Tanks	1949
413E	0	On Site	Unspecified Tank	1968
414E	0	On Site	Unspecified Tank	1967
415D	0	On Site	Unspecified Tank	1968
416D	0	On Site	Unspecified Tank	1967
417C	0	On Site	Gasometer	1949
418D	0	On Site	Unspecified Tank	1968

419D	0	On Site	Unspecified Tank	1967
420C	0	On Site	Tanks	1927
421C	0	On Site	Gasometers	1887
422D	0	On Site	Gas Works	1887
423C	0	On Site	Gasometer	1949
424C	0	On Site	Tanks	1958
425C	0	On Site	Gasometers	1949
426C	0	On Site	Gasometers	1968
427C	0	On Site	Gasometers	1967
428D	0	On Site	Gas Works	1949
429D	0	On Site	Gas Works	1968
430D	0	On Site	Gas Works	1949
431D	0	On Site	Gas Works	1967
432H	0	On Site	Unspecified Tank	1949
433H	0	On Site	Unspecified Tank	1963
434	0	On Site	Unspecified Tank	1966
435CA	0	On Site	Unspecified Tank	1949
436CA	0	On Site	Unspecified Tank	1966
437CA	0	On Site	Unspecified Tank	1963
438CA	0	On Site	Unspecified Tank	1949
439CB	0	On Site	Unspecified Tank	1963
440BR	0	On Site	Unspecified Tank	1949
441BR	0	On Site	Unspecified Tank	1958
442BR	0	On Site	Unspecified Tank	1957
443BR	0	On Site	Unspecified Tank	1949
444BY	0	On Site	Unspecified Tank	1949
445BX	0	On Site	Unspecified Tank	1949
446BX	0	On Site	Unspecified Tank	1949
447CB	0	On Site	Unspecified Tank	1949
448BZ	0	On Site	Unspecified Tank	1986
449A	0	On Site	Gas Holder Station	1986
450A	0	On Site	Gas Holder	1986
451BW	0	On Site	Tanks	1986
452BV	0	On Site	Unspecified Tank	1986
453C	0	On Site	Gasometers	1883
454D	0	On Site	Gas Works	1883
455CB	0	On Site	Unspecified Tank	1927
456CB	0	On Site	Unspecified Tank	1966
457CB	0	On Site	Unspecified Tank	1949
458H	0	On Site	Unspecified Tank	1928
459H	0	On Site	Unspecified Tank	1949
460CC	0	On Site	Unspecified Tank	1928
461CC	0	On Site	Unspecified Tank	1905
462CD	9	S	Unspecified Tank	1968
463CD	10	S	Unspecified Tank	1968
464K	21	S	Tanks	1990

465K	22	S	Tanks	1984
466K	24	S	Tanks	1990
467CE	30	W	Unspecified Tank	1990
468CE	30	W	Unspecified Tank	1985
469CF	30	NW	Tanks	1996
470CF	30	NW	Unspecified Tank	1990
471CF	30	NW	Unspecified Tank	1990
472V	32	S	Unspecified Tank	1949
473V	33	S	Unspecified Tank	1949
474CF	38	NW	Unspecified Tank	1986
475V	38	S	Tanks	1958
476U	39	S	Tanks	1968
477CF	39	NW	Unspecified Tank	1975
478U	39	S	Tanks	1968
479V	39	S	Tanks	1957
480CF	40	NW	Unspecified Tank	1990
481CF	40	NW	Unspecified Tank	1990
482U	40	S	Tanks	1981
483U	40	S	Tanks	1990
484U	40	S	Tanks	1984
485	44	E	Unspecified Tank	1966
486	44	NW	Unspecified Tank	1980
487CG	46	N	Tanks	1996
488CG	47	N	Tanks	1990
489CG	47	N	Tanks	1990
490S	53	N	Tanks	1996
491S	55	N	Tanks	1966
492S	55	N	Tanks	1984
493S	55	N	Tanks	1990
494CH	62	N	Unspecified Tank	1949
495CH	62	N	Unspecified Tank	1949
496CH	62	N	Unspecified Tank	1963
497CI	70	E	Tanks	1949
498CE	70	SW	Unspecified Tank	1964
499CE	70	SW	Unspecified Tank	1955
500CI	70	E	Tanks	1949
501W	71	E	Tanks	1990
502CE	71	SW	Unspecified Tank	1978
503CE	73	SW	Unspecified Tank	1990
504CE	73	SW	Unspecified Tank	1985
505CM	73	NW	Unspecified Tank	1978
506CJ	74	S	Unspecified Tank	1927
507CK	79	W	Tanks	1951
508CK	79	W	Tanks	1963
509CK	80	W	Unspecified Tank	1949
510CK	80	W	Unspecified Tank	1949



511CK	80	W	Unspecified Tank	1949
512CL	80	E	Tanks	1990
513CL	80	E	Tanks	1984
514CM	82	NW	Unspecified Tank	1975
515CJ	87	S	Tanks	1958
516CJ	87	S	Tanks	1968
517CJ	87	S	Tanks	1949
518CJ	87	S	Tanks	1949
519CJ	87	S	Tanks	1968
520CJ	87	S	Tanks	1957
521CN	87	S	Unspecified Tank	1958
522CN	87	S	Unspecified Tank	1949
523CN	88	S	Unspecified Tank	1949
524CO	90	S	Unspecified Tank	1968
525	91	NW	Unspecified Tank	1975
526CO	91	S	Unspecified Tank	1967
527CO	91	S	Unspecified Tank	1976
528CL	94	E	Tanks	1990
529CI	107	E	Unspecified Tank	1957
530CI	107	E	Unspecified Tank	1968
531CI	107	E	Unspecified Tank	1949
532CI	107	E	Unspecified Tank	1949
533CI	107	E	Unspecified Tank	1968
534CI	107	E	Unspecified Tank	1958
535CP	111	N	Unspecified Tank	1949
536CP	112	N	Unspecified Tank	1963
537CP	112	N	Unspecified Tank	1949
538CJ	112	S	Unspecified Tank	1968
539CJ	112	S	Unspecified Tank	1968
540CJ	112	S	Unspecified Tank	1981
541CJ	113	S	Unspecified Tank	1984
542CQ	145	N	Tanks	1966
543CQ	145	N	Tanks	1975
544CR	149	NW	Unspecified Tank	1980
545CR	149	NW	Unspecified Tank	1985
546AG	150	SE	Tanks	1990
547	170	W	Unspecified Tank	1990
548AG	174	SE	Unspecified Tank	1990
549CS	191	E	Unspecified Tank	1981
550CS	191	E	Unspecified Tank	1990
551CS	191	E	Unspecified Tank	1984
552CS	191	E	Unspecified Tank	1968
553CS	192	E	Unspecified Tank	1968
554CT	215	S	Unspecified Tank	1927
555CT	215	S	Unspecified Tank	1905
556	230	NW	Unspecified Tank	1985

557CU	244	SE	Unspecified Tank	1968
558CU	244	SE	Unspecified Tank	1968
559CU	248	SE	Tanks	1968
560CU	248	SE	Tanks	1968
561CU	251	SE	Unspecified Tank	1958
562CU	251	SE	Unspecified Tank	1949
563CU	252	SE	Unspecified Tank	1957
564CU	252	SE	Unspecified Tank	1949
565CV	258	E	Tanks	1981
566CV	259	E	Tanks	1968
567CV	259	E	Tanks	1949
568CV	259	E	Tanks	1958
569CV	259	E	Tanks	1957
570CV	259	E	Tanks	1968
571CV	259	E	Tanks	1949
572CV	260	E	Tanks	1984
573	276	S	Unspecified Tank	1927
574CU	283	SE	Unspecified Tank	1968
575CU	283	SE	Unspecified Tank	1964
576CU	283	SE	Unspecified Tank	1971
577CW	285	NW	Unspecified Tank	1928
578CW	285	NW	Unspecified Tank	1887
579CW	285	NW	Unspecified Tank	1905
580CV	286	E	Unspecified Tank	1958
581CV	286	E	Unspecified Tank	1949
582CV	287	E	Unspecified Tank	1957
583CV	287	E	Unspecified Tank	1949
584CX	292	N	Unspecified Tank	1975
585CX	292	N	Unspecified Tank	1966
586CX	292	N	Unspecified Tank	1990
587CX	292	N	Unspecified Tank	1990
588CY	304	S	Unspecified Tank	1968
589CY	304	S	Unspecified Tank	1972
590CY	304	S	Unspecified Tank	1968
591CY	304	S	Unspecified Tank	1990
592CY	311	S	Unspecified Tank	1949
593CY	314	S	Unspecified Tank	1949
594CY	314	S	Unspecified Tank	1953
595CY	314	S	Tanks	1972
596CZ	321	SE	Unspecified Tank	1981
597CZ	322	SE	Unspecified Tank	1984
598DA	326	SE	Tanks	1967
599DA	326	SE	Tanks	1968
600CZ	328	SE	Unspecified Tank	1981
601CZ	330	SE	Unspecified Tank	1984
602AM	358	N	Tanks	1928

603DB	364	SE	Unspecified Tank	1927
604DB	366	SE	Unspecified Tank	1967
605AY	367	E	Unspecified Tank	1970
606DC	371	SE	Unspecified Tank	1981
607DC	371	SE	Unspecified Tank	1990
608DC	371	SE	Unspecified Tank	1984
609DD	373	NW	Tanks	1968
610DD	374	NW	Tanks	1987
611DD	374	NW	Tanks	1987
612BB	374	E	Unspecified Tank	1963
613BB	374	E	Unspecified Tank	1949
614BB	375	E	Unspecified Tank	1949
615DE	376	E	Unspecified Tank	1949
616AX	376	E	Unspecified Tank	1990
617DE	376	E	Unspecified Tank	1963
618DE	376	E	Unspecified Tank	1949
619AX	377	E	Unspecified Tank	1963
620AX	377	E	Unspecified Tank	1949
621DD	377	NW	Tanks	1968
622DD	377	NW	Tanks	1968
623AX	377	E	Unspecified Tank	1949
624AX	377	E	Unspecified Tank	1970
625BB	388	E	Tanks	1990
626BB	389	E	Unspecified Tank	1970
627BF	392	N	Tanks	1968
628DD	393	NW	Unspecified Tank	1968
629DD	394	NW	Unspecified Tank	1987
630DD	394	NW	Unspecified Tank	1987
631	395	SE	Unspecified Tank	1990
632DF	398	SE	Tanks	1976
633BF	412	N	Unspecified Tank	1987
634BF	412	N	Unspecified Tank	1987
635AJ	416	SE	Tanks	1976
636AJ	416	SE	Tanks	1976
637BF	422	N	Unspecified Tank	1968
638	429	NE	Unspecified Tank	1905
639BH	438	N	Unspecified Tank	1954
640BH	438	N	Unspecified Tank	1966
641BH	439	N	Unspecified Tank	1963
642	439	NW	Unspecified Tank	1968
643	445	S	Unspecified Tank	1905
644BD	467	SE	Unspecified Tank	1949
645EC	467	SE	Unspecified Tank	1949
646BD	468	SE	Tanks	1968
647BD	472	SE	Tanks	1990
648BD	477	SE	Tanks	1949

649BD	478	SE	Tanks	1949
650DG	479	SE	Tanks	1968
651DG	479	SE	Tanks	1967
652BQ	487	SE	Tanks	1967
653ED	493	N	Unspecified Tank	1968

### 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:

215

ID	Distance (m)	Direction	Use	Date
654DH	0	On Site	Electricity Substation	1976
655DH	0	On Site	Electricity Substation	1968
656DH	0	On Site	Electricity Substation	1967
657DH	0	On Site	Electricity Substation	1986
658DH	0	On Site	Electricity Substation	1976
659DH	0	On Site	Electricity Substation	1949
660DH	0	On Site	Electricity Substation	1968
661D	0	On Site	Gas Works	1949
662D	0	On Site	Gas Works	1967
663D	0	On Site	Gas Works	1949
664D	0	On Site	Gas Works	1968
665C	0	On Site	Gasometers	1887
666C	0	On Site	Gasometers	1967
667C	0	On Site	Gasometer	1949
668C	0	On Site	Gasometers	1968
669C	0	On Site	Gasometers	1949
670C	0	On Site	Gasometer	1949
671DI	0	On Site	Electricity Substation	1996
672A	0	On Site	Gas Distribution Station	1996
673DI	0	On Site	Electricity Substation	1976
674A	0	On Site	Gas Distribution Station	1976
675DI	0	On Site	Electricity Substation	1967
676A	0	On Site	Gas Distribution Station	1990
677A	0	On Site	Gas Holder Station	1986
678DI	0	On Site	Electricity Substation	1990
679DI	0	On Site	Electricity Substation	1968
680A	0	On Site	Gasholder	1949
681A	0	On Site	Gasholder	1967
682A	0	On Site	Gasholder	1976
683A	0	On Site	Gas Holder	1986

684A	0	On Site	Gasholder	1949
685A	0	On Site	Gasholder	1968
686D	0	On Site	Electricity Substation	1996
687D	0	On Site	Electricity Substation	1990
688L	0	On Site	Electricity Works	1968
689L	0	On Site	Electricity Works	1968
690L	0	On Site	Electricity Works	1981
691L	0	On Site	Electricity Works	1984
692DJ	0	On Site	Electricity Substation	1980
693DJ	0	On Site	Electricity Substation	1978
694M	0	On Site	Gas Works	1887
695DH	0	On Site	Electricity Substation	1986
696DH	0	On Site	Electricity Substation	1996
697DH	0	On Site	Electricity Substation	1990
698N	0	On Site	Gas Holder Station	1996
699M	0	On Site	Gasometer	1887
700DH	0	On Site	Electricity Substation	1967
701DH	0	On Site	Electricity Substation	1949
702D	0	On Site	Gas Works	1887
703DI	0	On Site	Electricity Substation	1986
704F	0	On Site	Electricity Substation	1986
705F	0	On Site	Electricity Substation	1996
706M	0	On Site	Gas Holder	1996
707N	0	On Site	Electricity Substation	1996
708O	0	On Site	Gasometer	1887
709O	0	On Site	Gasometer	1949
710O	0	On Site	Gasometer	1966
711O	0	On Site	Gasometer	1949
712O	0	On Site	Gas Holder	1996
713O	0	On Site	Gasometer	1949
714O	0	On Site	Gasometer	1966
715O	0	On Site	Gasometer	1963
716O	0	On Site	Gasometer	1949
717Q	0	On Site	Gasometers	1887
718M	0	On Site	Gas Works	1963
719M	0	On Site	Gas Works	1966
720M	0	On Site	Gasometer	1963
721M	0	On Site	Gasometer	1949
722M	0	On Site	Gasometer	1949
723M	0	On Site	Gasometer	1966
724M	0	On Site	Gasometer	1966
725F	0	On Site	Electricity Substation	1990
726O	0	On Site	Gasometer	1963
727M	0	On Site	Gas Holder	1984
728O	0	On Site	Gas Holder	1984
729C	0	On Site	Gasometers	1883

730N	0	On Site	Gas Holder Station	1990
731O	0	On Site	Gas Holder	1990
732M	0	On Site	Gas Holder	1990
733N	0	On Site	Electricity Substation	1990
734D	0	On Site	Gas Works	1883
735DJ	0	On Site	Electricity Substation	1985
736M	0	On Site	Gas Works	1949
737M	0	On Site	Gas Works	1949
738Q	0	On Site	Gasometers	1883
739O	0	On Site	Gasometer	1883
740O	0	On Site	Gas Works	1883
741M	0	On Site	Gasometer	1883
742F	0	On Site	Electricity Substation	1990
743N	0	On Site	Gas Holder Station	1984
744N	0	On Site	Electricity Substation	1984
745DJ	0	On Site	Electricity Substation	1978
746	10	N	Electricity Substation	1951
747DK	13	S	Electricity Substation	1981
748DK	13	S	Electricity Substation	1990
749DK	13	S	Electricity Substation	1984
750V	13	S	Electricity Works	1949
751DL	13	S	Electricity Substation	1949
752U	14	S	Electricity Works	1968
753DL	14	S	Electricity Works	1968
754DL	14	S	Electricity Works	1968
755U	14	S	Electricity Works	1968
756DL	15	S	Electricity Works	1981
757DL	15	S	Electricity Works	1984
758V	15	S	Electricity Works	1949
759DL	15	S	Electricity Substation	1949
760U	15	S	Electricity Works	1981
761U	15	S	Electricity Works	1984
762U	15	S	Electricity Works	1990
763DM	18	W	Electricity Substation	1978
764DM	20	W	Electricity Substation	1985
765DM	20	W	Electricity Substation	1990
766DN	28	E	Electricity Substation	1996
767DN	29	E	Electricity Substation	1990
768DN	29	E	Electricity Substation	1984
769DO	34	NW	Electricity Substation	1996
770DO	35	NW	Electricity Substation	1986
771DO	35	NW	Electricity Substation	1990
772DO	35	NW	Electricity Substation	1990
773DO	35	NW	Electricity Substation	1975
774DO	35	NW	Electricity Substation	1968
775CO	39	SE	Electricity Substation	1968

776CO	39	SE	Electricity Substation	1968
777CO	39	SE	Electricity Substation	1984
778CO	39	SE	Electricity Substation	1981
779Y	59	N	Electricity Substation	1986
780Y	59	N	Electricity Substation	1990
781Y	64	N	Electricity Substation	1975
782Y	67	N	Electricity Substation	1996
783DP	98	E	Electricity Substation	1990
784DP	98	E	Electricity Substation	1984
785DP	99	E	Electricity Substation	1949
786DP	99	E	Electricity Substation	1996
787DP	99	E	Electricity Substation	1949
788CQ	110	N	Electricity Substation	1990
789CQ	110	N	Electricity Substation	1984
790DQ	112	N	Electricity Substation	1986
791DQ	112	N	Electricity Substation	1990
792DQ	112	N	Electricity Substation	1990
793DQ	113	N	Electricity Substation	1996
794CQ	118	N	Electricity Substation	1996
795CQ	120	N	Electricity Substation	1975
796CQ	120	N	Electricity Substation	1990
797CQ	120	N	Electricity Substation	1990
798AC	120	W	Electricity Substation	1949
799AC	121	W	Electricity Substation	1949
800AC	121	W	Electricity Substation	1975
801AC	121	W	Electricity Substation	1951
802AC	121	W	Electricity Substation	1968
803AC	124	W	Electricity Substation	1986
804AC	124	W	Electricity Substation	1990
805AC	124	W	Electricity Substation	1990
806AC	125	W	Electricity Substation	1996
807	180	S	Electricity Substation	1990
808DS	210	NW	Electricity Substation	1978
809DR	214	S	Electricity Substation	1968
810DR	214	S	Electricity Substation	1990
811DR	214	S	Electricity Substation	1967
812DR	214	S	Electricity Substation	1976
813DS	215	NW	Electricity Substation	1978
814DS	215	NW	Electricity Substation	1980
815DS	215	NW	Electricity Substation	1985
816DT	267	W	Electricity Substation	1985
817DT	267	W	Electricity Substation	1990
818DU	290	SE	Electricity Substation	1990
819DU	291	SE	Electricity Substation	1968
820DU	291	SE	Electricity Substation	1976
821DU	291	SE	Electricity Substation	1967



822CY	308	S	Electricity Substation	1972
823CY	312	S	Electricity Substation	1990
824BA	327	NE	Electricity Substation	1949
825DV	328	W	Electricity Substation	1985
826DV	328	W	Electricity Substation	1990
827DV	328	W	Electricity Substation	1978
828BA	328	NE	Electricity Substation	1975
829BA	328	NE	Electricity Substation	1954
830BA	331	NE	Electricity Substation	1949
831BA	333	NE	Electricity Substation	1990
832BA	333	NE	Electricity Substation	1990
833CZ	333	SE	Electricity Substation	1976
834DW	335	SE	Electricity Substation	1968
835DW	335	SE	Electricity Substation	1981
836DW	335	SE	Electricity Substation	1984
837DW	335	SE	Electricity Substation	1990
838DW	336	SE	Electricity Substation	1968
839AY	349	E	Electricity Substations	1970
840AY	349	E	Electricity Substation	1949
841AY	349	E	Electricity Substation	1949
842AM	358	N	Electricity Substation	1954
843AM	359	N	Electricity Substation	1949
844AM	359	N	Electricity Substation	1949
845DX	361	NW	Electricity Substation	1978
846DX	361	NW	Electricity Substation	1980
847DX	361	NW	Electricity Substation	1985
848DY	366	N	Electricity Substation	1975
849DY	366	N	Electricity Substation	1990
850DY	366	N	Electricity Substation	1990
851ER	368	NW	Electricity Substation	1968
852AS	370	NW	Electricity Substation	1987
853AS	370	NW	Electricity Substation	1987
854AS	370	NW	Electricity Substation	1990
855AS	381	NW	Electricity Substation	1987
856AS	381	NW	Electricity Substation	1987
857AS	381	NW	Electricity Substation	1990
858DZ	383	N	Electricity Substation	1990
859DZ	383	N	Electricity Substation	1975
860EA	426	S	Electricity Substation	1972
861EA	426	S	Electricity Substation	1990
862EB	466	N	Electricity Substation	1990
863EB	466	N	Electricity Substation	1987
864EB	466	N	Electricity Substation	1987
865EC	470	SE	Electricity Substation	1990
866	476	SE	Electricity Works	1990
867ED	479	N	Electricity Substation	1990

868BK

480

N

Electricity Substation

1990

## 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:

68

ID	Distance (m)	Direction	Use	Date
869I	0	On Site	Garage	1963
870EE	0	On Site	Garage	1976
871EE	0	On Site	Garage	1967
872EE	0	On Site	Garage	1986
873EF	0	On Site	Garage	1975
874EF	0	On Site	Garage	1968
875EG	0	On Site	Garage	1975
876EG	0	On Site	Garage	1968
877EE	0	On Site	Garage	1990
878I	0	On Site	Garage	1951
879I	0	On Site	Garage	1949
880I	0	On Site	Garage	1986
881I	0	On Site	Garage	1990
882I	0	On Site	Garage	1975
883I	0	On Site	Garage	1968
884EE	0	On Site	Garage	1968
885EF	0	On Site	Garage	1986
886EF	0	On Site	Garage	1968
887EH	0	On Site	Garage	1996
888I	0	On Site	Garage	1996
889CC	0	On Site	Garage	1996
890EE	0	On Site	Garage	1996
891EH	0	On Site	Garage	1986
892EH	0	On Site	Garage	1990
893EH	0	On Site	Garage	1990

894CC	0	On Site	Garage	1966
895CC	0	On Site	Garage	1990
896CC	0	On Site	Garage	1984
897BU	15	E	Motor Repair Works	1968
898BU	16	E	Motor Repair Works	1968
899EI	93	SE	Garage	1958
900EI	93	SE	Boat Repair Yard	1968
901EI	94	SE	Boat Repair Yard	1968
902EI	126	SE	Garage	1957
903EI	126	SE	Garage	1949
904EJ	170	N	Garage	1990
905EJ	172	N	Garage	1975
906EJ	172	N	Garage	1966
907EK	177	N	Garage	1975
908EK	177	N	Garage	1954
909EK	189	N	Garage	1966
910EK	193	N	Garage	1949
911EK	194	N	Garage	1990
912EK	194	N	Garage	1990
913EK	199	N	Garage	1949
914EK	200	N	Garage	1963
915CW	219	NW	Garage	1963
916CW	223	NW	Garage	1987
917CW	223	NW	Garage	1987
918EL	227	N	Garage	1966
919EL	227	N	Garage	1954
920EL	228	N	Garage	1990
921EL	232	N	Garage	1963
922CW	232	NW	Garage	1949
923CW	232	NW	Garage	1968
924CW	232	NW	Garage	1957
925CU	234	SE	Garage	1971
926CU	235	SE	Garage	1990
927CU	241	SE	Garage	1964
928CU	241	SE	Garage	1968
929EL	261	N	Garage	1990
930EL	261	N	Garage	1990
931AS	286	N	Shipbuilding and Repairing Yard	1987
932AS	286	N	Shipbuilding and Repairing Yard	1987
933AS	286	N	Shipbuilding and Repairing Yard	1990
934DZ	365	N	Garage	1954
935DZ	365	N	Garage	1949
936DZ	365	N	Garage	1963

## 1.6 Potentially Infilled Land

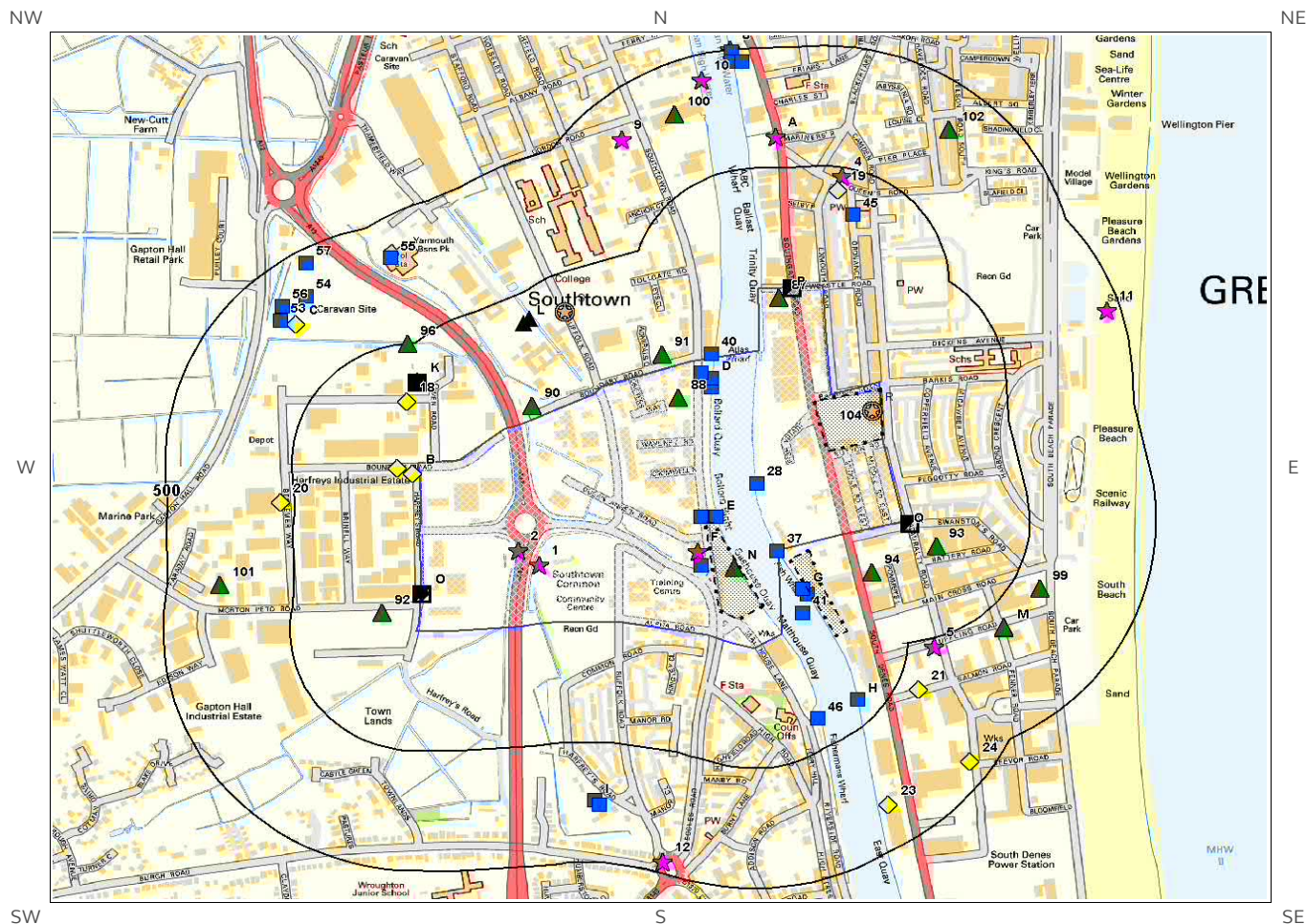
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 81

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

ID	Distance(m)	Direction	Use	Date
937J	0	On Site	Quay	1938
938J	0	On Site	Quay	1938
939K	0	On Site	Unspecified Wharf	1946
940J	0	On Site	Quay	1978
941DK	0	On Site	Unspecified Wharf	1978
942D	0	On Site	Quay	1904
943D	0	On Site	Quay	1946
944E	0	On Site	Quay	1978
945E	0	On Site	Quay	1988
946D	0	On Site	Quay	1938
947D	0	On Site	Quay	1938
948EM	0	On Site	Unspecified Wharf	1884
949B	0	On Site	Quay	1952
950EN	0	On Site	Unspecified Wharf	1988
951B	0	On Site	Quay	1988
952B	0	On Site	Quay	1978
953B	0	On Site	Quay	1938
954B	0	On Site	Quay	1938
955G	0	On Site	Quay	1946
956K	0	On Site	Unspecified Wharf	1904
957G	0	On Site	Quay	1904
958H	0	On Site	Quay	1978
959H	0	On Site	Quay	1988
960EO	15	S	Pond	1884
961EO	15	S	Pond	1901
962AB	52	N	Dock	1946
963Z	73	SE	Quay	1946
964Z	73	SE	Quay	1904
965EP	117	E	Sand Pit	1884
966EQ	124	SE	Quay	1988
967CP	127	N	Dry Docks	1904
968AJ	164	SE	Quay	1946
969AH	169	SE	Quay	1988
970AH	169	SE	Quay	1978
971AH	172	SE	Quay	1904
972AH	172	SE	Quay	1946
973AJ	188	SE	Quay	1952
974DB	188	SE	Quay	1978

975AK	203	NE	Unspecified Ground Workings	1938
976AK	203	NE	Unspecified Ground Workings	1938
977AH	230	SE	Quay	1938
978AH	230	SE	Quay	1938
979AD	249	NE	Unspecified Pit	1901
980AR	269	W	Unspecified Pit	1901
981DF	277	SE	Quay	1988
982AR	279	W	Unspecified Pit	1884
983AR	280	W	Unspecified Pit	1904
984AR	280	W	Unspecified Pit	1946
985AR	291	W	Unspecified Heap	1938
986AR	291	W	Unspecified Heap	1938
987AS	295	N	Dry Dock	1988
988ER	295	N	Dry Dock	1978
989AR	298	W	Unspecified Pit	1952
990DC	303	SE	Refuse Heap	1884
991	306	NW	Pond	1952
992ER	316	N	Dry Docks	1938
993ER	316	N	Dry Docks	1938
994AS	329	N	Dry Docks	1904
995AS	329	N	Dry Docks	1946
996BP	367	W	Cuttings	1884
997ES	371	E	Pond	1938
998ES	372	E	Pond	1946
999BE	382	S	Unspecified Pit	1946
1000BE	382	S	Unspecified Pit	1904
1001ES	385	E	Pond	1988
1002ES	385	E	Pond	1978
1003ET	397	NE	Unspecified Heap	1952
1004EU	421	NE	Boating Lake	1988
1005EU	421	NE	Boating Lake	1978
1006BI	436	SE	Quay	1938
1007BI	436	SE	Quay	1938
1008BO	436	W	Cuttings	1901
1009BL	458	S	Unspecified Heap	1988
1010BL	458	S	Unspecified Heap	1978
1011BN	461	N	Quay	1904
1012BN	461	N	Quay	1946
1013BO	463	W	Cuttings	1938
1014BO	464	W	Cuttings	1946
1015BO	464	W	Cuttings	1904
1016BP	469	W	Cuttings	1952
1017BO	496	W	Cuttings	1952

## 2. Environmental Permits, Incidents and Registers Map



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

21

The following Part A(1) and IPPC Authorised Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
113K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT</p> <p>Permit Number: JP3336EE Original Permit Number: RP3636SR EPR Reference: - Issue Date: 15/1/2014 Effective Date: 15/1/2014 Last date noted as effective: 2017-04-01 Status: Superseded</p>
114K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING BLENDING OR MIXING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1</p> <p>Permit Number: JP3336EE Original Permit Number: RP3636SR EPR Reference: - Issue Date: 15/1/2014 Effective Date: 15/1/2014 Last date noted as effective: 2017-04-01 Status: Superseded</p>
115K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: DISPOSAL OF &gt; 50 T/D NON-HAZARDOUS WASTE (&gt; 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT</p> <p>Permit Number: JP3336EE Original Permit Number: RP3636SR EPR Reference: - Issue Date: 15/1/2014 Effective Date: 15/1/2014 Last date noted as effective: 2017-04-01 Status: Superseded</p>

ID	Distance (m)	Direction	NGR	Details
116K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY &gt; 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED</p> <p>Permit Number: JP3336EE Original Permit Number: RP3636SR EPR Reference: - Issue Date: 15/1/2014 Effective Date: 15/1/2014 Last date noted as effective: 2017-04-01 Status: Superseded</p>
117K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: ASSOCIATED PROCESS</p> <p>Permit Number: JP3336EE Original Permit Number: RP3636SR EPR Reference: - Issue Date: 15/1/2014 Effective Date: 15/1/2014 Last date noted as effective: 2017-04-01 Status: Superseded</p>
118K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT</p> <p>Permit Number: JP3336EE Original Permit Number: RP3636SR EPR Reference: - Issue Date: 15/1/2014 Effective Date: 15/1/2014 Last date noted as effective: 2017-04-01 Status: Superseded</p>
119K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: OTHER WASTE DISPOSAL; WASTE OILS &gt;10 T/D</p> <p>Permit Number: RP3636SR Original Permit Number: RP3636SR EPR Reference: - Issue Date: 29/6/2006 Effective Date: 29/6/2006 Last date noted as effective: 2017-04-01 Status: Superseded</p>
120K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE &gt;50T/D BY PHYSICO-CHEMICAL TREATMENT</p> <p>Permit Number: RP3636SR Original Permit Number: RP3636SR EPR Reference: - Issue Date: 29/6/2006 Effective Date: 29/6/2006 Last date noted as effective: 2017-04-01 Status: Superseded</p>
121K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE &gt;10T/D</p> <p>Permit Number: RP3636SR Original Permit Number: RP3636SR EPR Reference: - Issue Date: 29/6/2006 Effective Date: 29/6/2006 Last date noted as effective: 2017-04-01 Status: Superseded</p>
122K	167	N	651840 306180	<p>Operator: Biffa Waste Services Ltd Installation Name: Great Yarmouth Wm Resource Centre Epr/rp3636sr Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE &gt;10T/D</p> <p>Permit Number: RP3636SR Original Permit Number: RP3636SR EPR Reference: - Issue Date: 29/6/2006 Effective Date: 29/6/2006 Last date noted as effective: 2017-04-01 Status: Superseded</p>

ID	Distance (m)	Direction	NGR	Details	
123K	167	N	651840 306180	Operator: Augean North Sea Services Limited Installation Name: Great Yarmouth Wm Resource Centre Epr/zp3637rm Process: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING BLENDING OR MIXING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1	Permit Number: ZP3637RM Original Permit Number: ZP3637RM EPR Reference: - Issue Date: 28/4/2016 Effective Date: 28/4/2016 Last date noted as effective: 2017-04-01 Status: Transfer Effective
124K	167	N	651840 306180	Operator: Augean North Sea Services Limited Installation Name: Great Yarmouth Wm Resource Centre Epr/zp3637rm Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT	Permit Number: ZP3637RM Original Permit Number: ZP3637RM EPR Reference: - Issue Date: 28/4/2016 Effective Date: 28/4/2016 Last date noted as effective: 2017-04-01 Status: Transfer Effective
125K	167	N	651840 306180	Operator: Augean North Sea Services Limited Installation Name: Great Yarmouth Wm Resource Centre Epr/zp3637rm Process: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED	Permit Number: ZP3637RM Original Permit Number: ZP3637RM EPR Reference: - Issue Date: 28/4/2016 Effective Date: 28/4/2016 Last date noted as effective: 2017-04-01 Status: Transfer Effective
126K	167	N	651840 306180	Operator: Augean North Sea Services Limited Installation Name: Great Yarmouth Wm Resource Centre Epr/zp3637rm Process: ASSOCIATED PROCESS	Permit Number: ZP3637RM Original Permit Number: ZP3637RM EPR Reference: - Issue Date: 28/4/2016 Effective Date: 28/4/2016 Last date noted as effective: 2017-04-01 Status: Transfer Effective
127K	167	N	651840 306180	Operator: Augean North Sea Services Limited Installation Name: Great Yarmouth Wm Resource Centre Epr/zp3637rm Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT	Permit Number: ZP3637RM Original Permit Number: ZP3637RM EPR Reference: - Issue Date: 28/4/2016 Effective Date: 28/4/2016 Last date noted as effective: 2017-04-01 Status: Transfer Effective
128L	187	NW	652050 306300	Operator: C & L Waste Oil Collection Limited Installation Name: Great Yarmouth Oil Reclamation Facility Epr/np3038mb Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT	Permit Number: WP3437RY Original Permit Number: NP3038MB EPR Reference: - Issue Date: 27/4/2016 Effective Date: 27/4/2016 Last date noted as effective: 2017-04-01 Status: Effective

ID	Distance (m)	Direction	NGR	Details	
129L	187	NW	652050 306300	Operator: C & L Waste Oil Collection Limited Installation Name: Great Yarmouth Oil Reclamation Facility Epr/np3038mb Process: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED	Permit Number: WP3437RY Original Permit Number: NP3038MB EPR Reference: - Issue Date: 27/4/2016 Effective Date: 27/4/2016 Last date noted as effective: 2017-04-01 Status: Effective
130L	192	NW	652060 306310	Operator: C & L Waste Oil Collection Limited Installation Name: C & L Waste Oil Collection Process: RECOVERY OF WASTE; CLEANING/REGENERATING CARBON ETC BY REMOVING SCHEDULED SUBSTANCES	Permit Number: NP3038MB Original Permit Number: NP3038MB EPR Reference: - Issue Date: 17/10/2007 Effective Date: 17/10/2007 Last date noted as effective: 2011-08-08 Status: Effective
131L	192	NW	652060 306310	Operator: C & L Waste Oil Collection Limited Installation Name: Great Yarmouth Oil Reclamation Facility Epr/np3038mb Process: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED	Permit Number: FP3934ER Original Permit Number: NP3038MB EPR Reference: - Issue Date: 10/12/2013 Effective Date: 10/12/2013 Last date noted as effective: 2017-04-01 Status: Superseded
132L	192	NW	652060 306310	Operator: C & L Waste Oil Collection Limited Installation Name: Great Yarmouth Oil Reclamation Facility Epr/np3038mb Process: OTHER WASTE DISPOSAL; WASTE OILS >10 T/D	Permit Number: NP3038MB Original Permit Number: NP3038MB EPR Reference: - Issue Date: 17/10/2007 Effective Date: 17/10/2007 Last date noted as effective: 2017-04-01 Status: Superseded
133L	192	NW	652060 306310	Operator: C & L Waste Oil Collection Limited Installation Name: Great Yarmouth Oil Reclamation Facility Epr/np3038mb Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT	Permit Number: FP3934ER Original Permit Number: NP3038MB EPR Reference: - Issue Date: 10/12/2013 Effective Date: 10/12/2013 Last date noted as effective: 2017-04-01 Status: Superseded

### 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:

2

The following List 1 Dangerous Substance Inventory Site records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
14O	0	On Site	651850 305740	Name: Weatherford Uk Limited Status: Not Active Receiving Water: Na Authorised Substances: Mercury (other), Cadmium
15C	376	NW	651600 306300	Name: Biffa Waste Services Ltd Status: Active Receiving Water: Na Authorised Substances: Mercury (other), Cadmium, Carbon tetrachloride, Aldrin, Dieldrin, Endrin, Hexachlorobenzene, Hexachlorobutadiene, Trichlorobenzene, Total DDT

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

9

The following List 2 Dangerous Substance Inventory Site records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
16B	15	W	651830 305990	Name: Great Yarmouth Cardboard Box Company Status: Not Active Receiving Water: Na Authorised Substances: pH
17B	44	W	651800 306000	Name: U K Waste Management Limited Status: Active Receiving Water: North Sea Authorised Substances: Chromium, Copper, Lead, Nickel, Zinc
18	129	N	651820 306140	Name: Edeco Petroleum Services Ltd Status: Not Active Receiving Water: Na Authorised Substances: pH
19	200	N	652670 306580	Name: Blackfriars Brewery Status: Not Active Receiving Water: Na Authorised Substances: pH
20	278	W	651570 305930	Name: Superior Linen Service Ltd Status: Not Active Receiving Water: Na Authorised Substances: pH
21	294	SE	652830 305540	Name: Asco Uk Ltd Status: Not Active Receiving Water: Na Authorised Substances: pH

ID	Distance (m)	Direction	NGR	Details	
22C	376	NW	651600 306300	Name: Biffa Waste Services Ltd Status: Active Receiving Water: Na	Authorised Substances: Arsenic, Chromium, Copper, Cyanide, Dichlorvos, Lead, Nickel, pH, Tributyltin, Triphenyltin, Zinc, Atrazine & Simazine, Azinphos-methyl, Endosulphan, Fenitrothion, Malathion, Trifluralin, Phenol
23	414	SE	652770 305300	Name: Co-operative Cleaners Ltd Status: Active Receiving Water: Na	Authorised Substances: pH
24	456	SE	652930 305390	Name: C-mac Microcircuits Limited Status: Not Active Receiving Water: Na	Authorised Substances: pH

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

16

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	
87	0	On Site	652554 306353	Address: L J Steward, South Quay Service Station, Southgate Road, N1 3HU Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
88	0	On Site	652355 306146	Address: L J Steward, Southtown Road Service Station, Southtown Road, NR31 0JZ Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
89N	0	On Site	652465 305791	Address: CEBO (UK) Ltd, Gas House Quay North, Malthouse Lane, Gorleston, Norfolk, NR31 0GY Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
90	24	NW	652066 306129	Address: Cemex UK Materials Ltd, Boundary Road, NR31 0LW Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
91	26	N	652324 306236	Address: Jewson, Boundary Road, Great Yarmouth, Norfolk, NR31 0JY Process: timber process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
92	74	W	651771 305697	Address: C & H Quickmix Ltd, Morton Peto Road, Great Yarmouth, Norfolk, NR31 0LT Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified



ID	Distance (m)	Direction	NGR	Details	
93	86	SE	652865 305835	Address: British Metal Treatments Ltd, 40 Battery Road, Great Yarmouth, NR30 3NN Process: Other Metal Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
94	94	S	652738 305781	Address: Haliburton Manufacturing & Services Ltd, Berth 1A, South Denes Road, Great Yarmouth, NR30 3PF Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
95K	165	N	651839 306178	Address: UK Waste Management, Bessemer Way, Great Yarmouth, Norfolk, NR31 0LX Process: waste oil burning process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
96	245	N	651821 306257	Address: Hope Construction Materials, Harfreys Industrial Estate, Bessemer Way, Great Yarmouth, NR31 0LX Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
97M	299	SE	652998 305667	Address: East Bilney Coachworks Ltd, Fenner Road, Great Yarmouth, Norfolk, NR30 3PS Process: Respraying of Road Vehicles process Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
98M	300	SE	652998 305666	Address: Halls Group Ltd, Operate at Fenner Road, Great Yarmouth, NR30 3PS Process: Respraying of Road Vehicles process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
99	305	SE	653069 305748	Address: Constitution Motors Ltd, South Beach Parade, Great Yarmouth, NR30 3QN Process: Waste oil Burner Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
100	395	NW	652348 306736	Address: Yeoman Bulk Cargoes, Yeoman Wharf, Southtown Road, Great Yarmouth, Norfolk, NR31 0JJ Process: bulk handling of coal Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
101	398	W	651449 305756	Address: Coastground Ltd, Morton Peto Road, Great Yarmouth, Norfolk, NR31 0LT Process: Metal coating process Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
102	405	NE	652889 306703	Address: Baldwin, Albert Road, Great Yarmouth, NR30 3HP Process: waste oil burning process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements 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
134K	167	N	651840 306180	Tube Care Inspection Ltd, Bessemer Way, harfeys Industrial Estate, Great Yarmouth, Norfolk, NR31 0LX	Tube Care Inspection Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	BS0329	Date of Approval: 20/5/2002 Effective from: 20/5/2002 Last date of update: 2015-01-01	Revoked/cancelled

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

41

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

ID	Distance (m)	Direction	NGR	Details
25D	0	On Site	652420 306190	Address: BOUNDARY RD PS SSO, BOUNDARY RD, GREAT YARMOUTH, NR31 Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AW4TS1735 Permit Version: 2 Receiving Water: River Yare Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 13/12/1991 Effective Date: 13-Dec-1991 Revocation Date: 15/10/1999
26D	0	On Site	652420 306170	Address: BOUNDARY ROAD STORM PUMPING STATION, GREAT YARMOUTH, NORFOLK, NR31 0JY Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AEETS12173 Permit Version: 1 Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/10/1999 Effective Date: 15-Oct-1999 Revocation Date: -
27D	0	On Site	652420 306170	Address: BOUNDARY ROAD STORM PUMPING STATION, GREAT YARMOUTH, NORFOLK, NR31 0JY Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS03291/12173 Permit Version: 1 Receiving Water: RIVER YARE Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 21/10/2002 Effective Date: 16-Oct-2002 Revocation Date: 16/10/2002
28	0	On Site	652510 305970	Address: SUTTON ROAD OUTFALL, GREAT YARMOUTH Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - WATER COMPANY Permit Number: AW4TS1389 Permit Version: 1 Receiving Water: River Yare T Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 14/10/1987 Effective Date: 14-Oct-1987 Revocation Date: 30/06/1994

ID	Distance (m)	Direction	NGR	Details	
29E	0	On Site	652430 305900	Address: SOUTHTOWN/COBHAM OUTFALL, SOUTHTOWN ROAD, GREAT YARMOUTH, NORFOLK, NR31 0LF Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS03293/12171 Permit Version: 1	Receiving Water: R.YARE Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 21/02/2003 Effective Date: 27-Jan-2003 Revocation Date: 01/04/2005
30E	0	On Site	652430 305900	Address: SOUTHTOWN/COBHAM OUTFALL, SOUTHTOWN ROAD, GREAT YARMOUTH, NORFOLK, NR31 0LF Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: AEETS12171 Permit Version: 2	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 24/03/2005 Effective Date: 01-Apr-2005 Revocation Date: -
31E	0	On Site	652430 305900	Address: SOUTHTOWN/COBHAM OUTFALL, SOUTHTOWN ROAD, GREAT YARMOUTH, NORFOLK, NR31 0LF Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS12171 Permit Version: 2	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 24/03/2005 Effective Date: 01-Apr-2005 Revocation Date: -
32E	0	On Site	652430 305900	Address: SOUTHTOWN/COBHAM OUTFALL, SOUTHTOWN ROAD, GREAT YARMOUTH, NORFOLK, NR31 0LF Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS03293/12171 Permit Version: 1	Receiving Water: R.YARE Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 21/02/2003 Effective Date: 27-Jan-2003 Revocation Date: 01/04/2005
33E	0	On Site	652430 305900	Address: SOUTHTOWN/COBHAM OUTFALL, SOUTHTOWN ROAD, GREAT YARMOUTH, NORFOLK, NR31 0LF Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS12171 Permit Version: 1	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/10/1999 Effective Date: 15-Oct-1999 Revocation Date: 31/03/2005
34E	0	On Site	652400 305900	Address: SOUTHTOWN COMMON OUTFALL DRAINAGE S, GREAT YARMOUTH, NR31 Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: AW4TS348X Permit Version: 1	Receiving Water: River Yare Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 25/01/1963 Effective Date: 25-Jan-1963 Revocation Date: 07/06/1991
35E	0	On Site	652430 305900	Address: SOUTHTOWN/COBHAM OUTFALL, SOUTHTOWN ROAD, GREAT YARMOUTH, NORFOLK, NR31 0LF Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS12171 Permit Version: 1	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/10/1999 Effective Date: 15-Oct-1999 Revocation Date: 31/03/2005
36E	0	On Site	652430 305900	Address: SOUTHTOWN/COBHAM OUTFALL, SOUTHTOWN ROAD, GREAT YARMOUTH, NORFOLK, NR31 0LF Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - WATER COMPANY Permit Number: AW4TS1387 Permit Version: 1	Receiving Water: River Yare T Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 14/10/1987 Effective Date: 14-Oct-1987 Revocation Date: 22/03/2002
37	0	On Site	652550 305830	Address: FISH WHARF OUTFALL, GREAT YARMOUTH Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - WATER COMPANY Permit Number: AW4TS1385 Permit Version: 1	Receiving Water: River Yare T Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 14/10/1987 Effective Date: 14-Oct-1987 Revocation Date: 16/02/1998

ID	Distance (m)	Direction	NGR	Details	
38F	0	On Site	652400 305800	Address: GT YARMOUTH CORPORATION, BOUNDARY ROAD Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - WATER COMPANY Permit Number: AW4TS721X Permit Version: 1	Receiving Water: River Yare Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 09/07/1971 Effective Date: 09-Jul-1971 Revocation Date: 16/02/1998
39D	0	On Site	652400 306200	Address: YEOMAN WHARF, SOUTHTOWN RD, GREAT YARMOUTH, NORFOLK, NR31 0JX Effluent Type: TRADE DISCHARGES - SITE DRAINAGE (CONTAM SURFACE WATER, NOT WASTE SIT Permit Number: PRETS8519 Permit Version: 1	Receiving Water: tidal River Yare Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 25/10/1993 Effective Date: 25-Oct-1993 Revocation Date: -
40	8	N	652420 306240	Address: BOUNDARY ROAD PS SSO, BOUNDARY ROAD, GREAT YARMOUTH, NR31 Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW4TS1735 Permit Version: 1	Receiving Water: River Yare Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 08/11/1988 Effective Date: 08-Nov-1988 Revocation Date: 12/12/1991
41	41	E	652600 305700	Address: SOUTH DENES RD, GT.YARMOUTH, NORFOLK (FERRY STEPS PLANT) Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PR4TS385 Permit Version: 1	Receiving Water: Tidal River Yare Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 24/03/1986 Effective Date: 24-Mar-1986 Revocation Date: -
42G	43	E	652600 305750	Address: YARMOUTH MARINE BASE, SOUTH DENES, GT YARMOUTH, NR30 3LX Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: PRETS4620 Permit Version: 1	Receiving Water: Tidal River Yare Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 16/12/1991 Effective Date: 16-Dec-1991 Revocation Date: -
43G	53	E	652610 305740	Address: FISH WHARF PS, GREAT YARMOUTH Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: AEETS2306 Permit Version: 1	Receiving Water: Tidal R Yare Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 02/01/1990 Effective Date: 02-Jan-1990 Revocation Date: 30/04/1992
44G	53	E	652610 305740	Address: FISH WHARF PS, GREAT YARMOUTH Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: AEETS1650 Permit Version: 1	Receiving Water: - Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/09/1990 Effective Date: 15-Sep-1990 Revocation Date: 08/04/1991
45	159	N	652700 306530	Address: SALMON ROAD, GREAT YARMOUTH, NR30 3QS Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - WATER COMPANY Permit Number: AW4TS1374 Permit Version: 1	Receiving Water: River Yare T Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 14/10/1987 Effective Date: 14-Oct-1987 Revocation Date: 16/02/1998
46	189	SE	652630 305480	Address: FISHERMEN'S QUAY, GORLESTON, GT.YARMOUTH. Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PR4TS137 Permit Version: 1	Receiving Water: The Tidal River Yare Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 23/04/1985 Effective Date: 23-Apr-1985 Revocation Date: -

ID	Distance (m)	Direction	NGR	Details	
47H	203	SE	652710 305520	Address: SUFFLING ROAD PUMPING STATION, SUFFLING ROAD, GREAT YARMOUTH, NORFOLK, NR30 3PQ Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS12169 Permit Version: 1	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/10/1999 Effective Date: 15-Oct-1999 Revocation Date: 22/02/2002
48H	203	SE	652710 305520	Address: SUFFLING ROAD PUMPING STATION, SUFFLING ROAD, GREAT YARMOUTH, NORFOLK, NR30 3PQ Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: AEETS12169 Permit Version: 2	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 23/02/2002 Effective Date: 23-Feb-2002 Revocation Date: -
49H	203	SE	652710 305520	Address: SUFFLING ROAD PUMPING STATION, SUFFLING ROAD, GREAT YARMOUTH, NORFOLK, NR30 3PQ Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS12169 Permit Version: 2	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 23/02/2002 Effective Date: 23-Feb-2002 Revocation Date: -
50H	203	SE	652710 305520	Address: SUFFLING ROAD PUMPING STATION, SUFFLING ROAD, GREAT YARMOUTH, NORFOLK, NR30 3PQ Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS12169 Permit Version: 1	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/10/1999 Effective Date: 15-Oct-1999 Revocation Date: 22/02/2002
51I	371	S	652190 305310	Address: ATCHIN TAN, HARFREYS ROAD, GORLESTON, GT. YARMOUTH, NORFOLK Effluent Type: UNSPECIFIED Permit Number: PRELF03747 Permit Version: 1	Receiving Water: - Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 30/10/1990 Effective Date: 30-Oct-1990 Revocation Date: 01/10/1996
52I	381	S	652200 305300	Address: HARFREYS ROAD, GT YARMOUTH, NORFOLK Effluent Type: UNSPECIFIED Permit Number: PR4LF268 Permit Version: 1	Receiving Water: Soakaway Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 27/09/1985 Effective Date: 27-Sep-1985 Revocation Date: 01/10/1996
53	403	NW	651570 306310	Address: GAPTON HALL TRAVELLERS SITE, GAPTON HALL ROAD, GREAT YARMOUTH, NORFOLK, NR31 0NL Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF19844 Permit Version: 1	Receiving Water: DITCH TRIB OF TIDAL R. YARE Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 24/02/2006 Effective Date: 24-Feb-2006 Revocation Date: -
54	412	NW	651620 306360	Address: CVAN SITE GAPTONHALL RD, GREAT YARMOUTH, NORFOLK Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: PRENF07708 Permit Version: 1	Receiving Water: Trib River Yare Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 06/02/1991 Effective Date: 06-Feb-1991 Revocation Date: -

ID	Distance (m)	Direction	NGR	Details
55	422	NW	651787 306440	<p>Address: POLICE CUSTODY CENTRE, THAMESFIELD WAY, GREAT YARMOYTH, ., NORFOLK, NR31 0DH</p> <p>Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY</p> <p>Permit Number: EPREP3120GR</p> <p>Permit Version: 1</p> <p>Receiving Water: TRIB OF THE RIVER YARE</p> <p>Status: NEW ISSUED UNDER EPR 2010</p> <p>Issue date: 12/08/2010</p> <p>Effective Date: 12-Aug-2010</p> <p>Revocation Date: -</p>
56	423	NW	651574 306340	<p>Address: GAPTON HALL ROAD &amp; LAND OF A12, GREAT YARMOUTH, NORFOLK, NR31 0LZ</p> <p>Effluent Type: SEWAGE &amp; TRADE COMBINED - UNSPECIFIED</p> <p>Permit Number: PRENF20271</p> <p>Permit Version: 1</p> <p>Receiving Water: TRIB RIVER YARE</p> <p>Status: NEW CONSENT, (WATER INDUSTRY ACT 1991, SECTION 166)</p> <p>Issue date: 31/08/2006</p> <p>Effective Date: 31-Aug-2006</p> <p>Revocation Date: -</p>
57	473	NW	651620 306430	<p>Address: GAPTON HALL TRAVELLERS SITE, GAPTON HALL ROAD, GREAT YARMOUTH, NORFOLK, NR31 0NL</p> <p>Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY</p> <p>Permit Number: PRENF19845</p> <p>Permit Version: 1</p> <p>Receiving Water: DITCH TRIB OF TIDAL R. YARE</p> <p>Status: NEW CONSENT (WRA 91, S88 &amp; SCHED 10 AS AMENDED BY ENV ACT 1995)</p> <p>Issue date: 24/02/2006</p> <p>Effective Date: 24-Feb-2006</p> <p>Revocation Date: -</p>
58J	474	N	652480 306850	<p>Address: BRYANTS QUAY SPS, GREAT YARMOUTH</p> <p>Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY</p> <p>Permit Number: AW4TS1408</p> <p>Permit Version: 1</p> <p>Receiving Water: River Yare T</p> <p>Status: REVOKED (WRA 91, S88 &amp; SCHED 10 AS AMENDED BY ENV ACT 1995)</p> <p>Issue date: 14/10/1987</p> <p>Effective Date: 14-Oct-1987</p> <p>Revocation Date: 22/03/2002</p>
59J	475	N	652460 306850	<p>Address: BRYANTS QUAY OUTFALL, GREAT YARMOUTH</p> <p>Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - WATER COMPANY</p> <p>Permit Number: AW4TS1388</p> <p>Permit Version: 1</p> <p>Receiving Water: River Yare T</p> <p>Status: REVOKED (WRA 91, S88 &amp; SCHED 10 AS AMENDED BY ENV ACT 1995)</p> <p>Issue date: 14/10/1987</p> <p>Effective Date: 14-Oct-1987</p> <p>Revocation Date: 22/03/2002</p>
60J	495	N	652460 306870	<p>Address: BRYANTS QUAY PUMPING STATION, SOUTH QUAY, GREAT YARMOUTH, NORFOLK, NR30 2RW</p> <p>Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY</p> <p>Permit Number: AEETS12175</p> <p>Permit Version: 2</p> <p>Receiving Water: TIDAL RIVER YARE</p> <p>Status: POST NRA LEGISLATION WHERE ISSUE DATE &gt; 31-AUG-89 (HISTORIC ONLY)</p> <p>Issue date: 11/01/2000</p> <p>Effective Date: 11-Jan-2000</p> <p>Revocation Date: -</p>
61J	495	N	652460 306870	<p>Address: BRYANTS QUAY PUMPING STATION, SOUTH QUAY, GREAT YARMOUTH, NORFOLK, NR30 2RW</p> <p>Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY</p> <p>Permit Number: AEETS12175</p> <p>Permit Version: 2</p> <p>Receiving Water: TIDAL RIVER YARE</p> <p>Status: POST NRA LEGISLATION WHERE ISSUE DATE &gt; 31-AUG-89 (HISTORIC ONLY)</p> <p>Issue date: 11/01/2000</p> <p>Effective Date: 11-Jan-2000</p> <p>Revocation Date: -</p>
62J	495	N	652460 306870	<p>Address: BRYANTS QUAY PUMPING STATION, SOUTH QUAY, GREAT YARMOUTH, NORFOLK, NR30 2RW</p> <p>Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY</p> <p>Permit Number: AEETS12175</p> <p>Permit Version: 1</p> <p>Receiving Water: TIDAL RIVER YARE</p> <p>Status: POST NRA LEGISLATION WHERE ISSUE DATE &gt; 31-AUG-89 (HISTORIC ONLY)</p> <p>Issue date: 15/10/1999</p> <p>Effective Date: 15-Oct-1999</p> <p>Revocation Date: 10/01/2000</p>



ID	Distance (m)	Direction	NGR	Details	
63J	495	N	652460 306870	Address: BRYANTS QUAY PUMPING STATION, SOUTH QUAY, GREAT YARMOUTH, NORFOLK, NR30 2RW Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS12175 Permit Version: 1	Receiving Water: TIDAL RIVER YARE Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/10/1999 Effective Date: 15-Oct-1999 Revocation Date: 10/01/2000
64J	495	N	652460 306870	Address: BRYANTS QUAY PUMPING STATION, SOUTH QUAY, GREAT YARMOUTH, NORFOLK, NR30 2RW Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS03290/12175 Permit Version: 1	Receiving Water: RIVER YARE Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 01/10/2002 Effective Date: 05-Sep-2002 Revocation Date: 01/10/2002
65J	495	N	652460 306870	Address: BRYANTS QUAY PUMPING STATION, SOUTH QUAY, GREAT YARMOUTH, NORFOLK, NR30 2RW Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AEETS03290/12175 Permit Version: 1	Receiving Water: RIVER YARE Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 01/10/2002 Effective Date: 05-Sep-2002 Revocation Date: 01/10/2002

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

4

The following Water Industry Referral records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	Address	Permission reference	Local Authority	First Date Received	Last Date Received	Status
135 O	0	On Site	WEATHERFORD UK LIMITED, HARFREY'S ROAD, HARFREY'S IND EST, GREAT YARMOUTH, NORFOLK, NR31 0LS	CA3653	GREAT YARMOUTH BOROUGH COUNCIL	01-Jul-2010	08-Oct-2016	EFFECTIVE
136 P	0	On Site	GREAT YARMOUTH PORT COMPANY, ATLAS TERMINAL, SOUTHGATES ROAD, GREAT YARMOUTH, NORFOLK, NR30 3LL	SCE0092C 2	NORFOLK	01-Jan-2015	08-Oct-2016	EFFECTIVE
137 Q	13	SE	TOTAL RECLAIM SYSTEMS LIMITED, TOTAL RECLAIM HOUSE, ADMIRALTY ROAD, GREAT YARMOUTH, NORFOLK, NR30 3PU	SCE0097C 2	NORFOLK	04-Jan-2013	08-Oct-2016	EFFECTIVE
138 K	167	N	BIFFA WASTE SERVICES LTD, BESSEMER WAY, HARFEYS IND EST, GREAT YARMOUTH, NORFOLK, NR31 0LX	BL8830	GREAT YARMOUTH BOROUGH COUNCIL	01-Jun-2003	08-Oct-2016	EFFECTIVE

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

2

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

ID	Distance (m)	Direction	Application Reference Number	NGR	Application Status	Application Date	Address	Details	Details of Enforcement Action
139R	0	On Site	No Details	652738 306121	Approved	No Details	Transco Plc, Southgates Road, Great Yarmouth, NR30 3DR	No Details	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
140S	171	NW	HSC/0001	652131 306327	Historical Consent	20/06/1994	Ventureforth Estates Ltd, Ventureforth House, Great Yarmouth Business Park, Suffolk Road, Great Yarmouth	Storage of ammonium nitrate.	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

## 2.2 Dangerous or Hazardous Sites

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

3

The following COMAH & NIHHS Authorisation records provided by the Health and Safety Executive are represented as polygons or buffered points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	Company	Address	Operational Status	Tier
104	0	On Site	British Gas	British Gas, Southgates Road, Great Yarmouth	Historical NIHHS Site	-
105N	0	On Site	Asco UK Limited	Asco UK Limited, Gas House Quay, Southtown Road, Great Yarmouth, Norfolk, NR30 3LX	Current COMAH Site	COMAH Lower Tier Operator
106G	15	S	ASCO UK Limited	ASCO UK Limited, Great Yarmouth, South Denes, Great Yarmouth, Norfolk, NR30 3LX	Current COMAH Site	COMAH Lower Tier Operator

## 2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

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

13

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	0	On Site	652080 305800	Incident Date: 23-Mar-2002 Incident Identification: 67348 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Food and Drink Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2	0	On Site	652038 305831	Incident Date: 17-Sep-2003 Incident Identification: 190491 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
3F	0	On Site	652393 305828	Incident Date: 22-Aug-2003 Incident Identification: 184276 Pollutant: Specific Waste Materials: Specific Waste Materials Pollutant Description: Tyres: Vehicles and Vehicle Parts Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
4	230	N	652677 306610	Incident Date: 19-Jul-2003 Incident Identification: 175140 Pollutant: Organic Chemicals/Products Pollutant Description: Solvents Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
5	268	S	652860 305630	Incident Date: 03-Nov-2002 Incident Identification: 118445 Pollutant: Sewage Materials Pollutant Description: Storm Sewage Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6A	314	N	652546 306692	Incident Date: 22-Nov-2001 Incident Identification: 44483 Pollutant: Atmospheric Pollutants and Effects: Contaminated Water Pollutant Description: Smoke: Firefighting Run-Off Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
7A	314	N	652546 306692	Incident Date: 22-Nov-2001 Incident Identification: 44483 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
8A	314	N	652546 306692	Incident Date: 22-Nov-2001 Incident Identification: 44483 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
9	412	NW	652242 306687	Incident Date: 05-Apr-2002 Incident Identification: 69833 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Animal and Vegetable Oil Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
10	447	N	652400 306810	Incident Date: 10-Jan-2002 Incident Identification: 51678 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Distance (m)	Direction	NGR	Details	
11	471	E	653200 306330	Incident Date: 21-Nov-2002 Incident Identification: 122176 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 1 (Major) Land Impact: Category 1 (Major) Air Impact: Category 4 (No Impact)
12	477	S	652323 305182	Incident Date: 11-Sep-2001 Incident Identification: 30255 Pollutant: Agricultural Materials and Wastes Pollutant Description: Solid Manure	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
13J	500	N	652457 306874	Incident Date: 16-Nov-2002 Incident Identification: 121239 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	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.

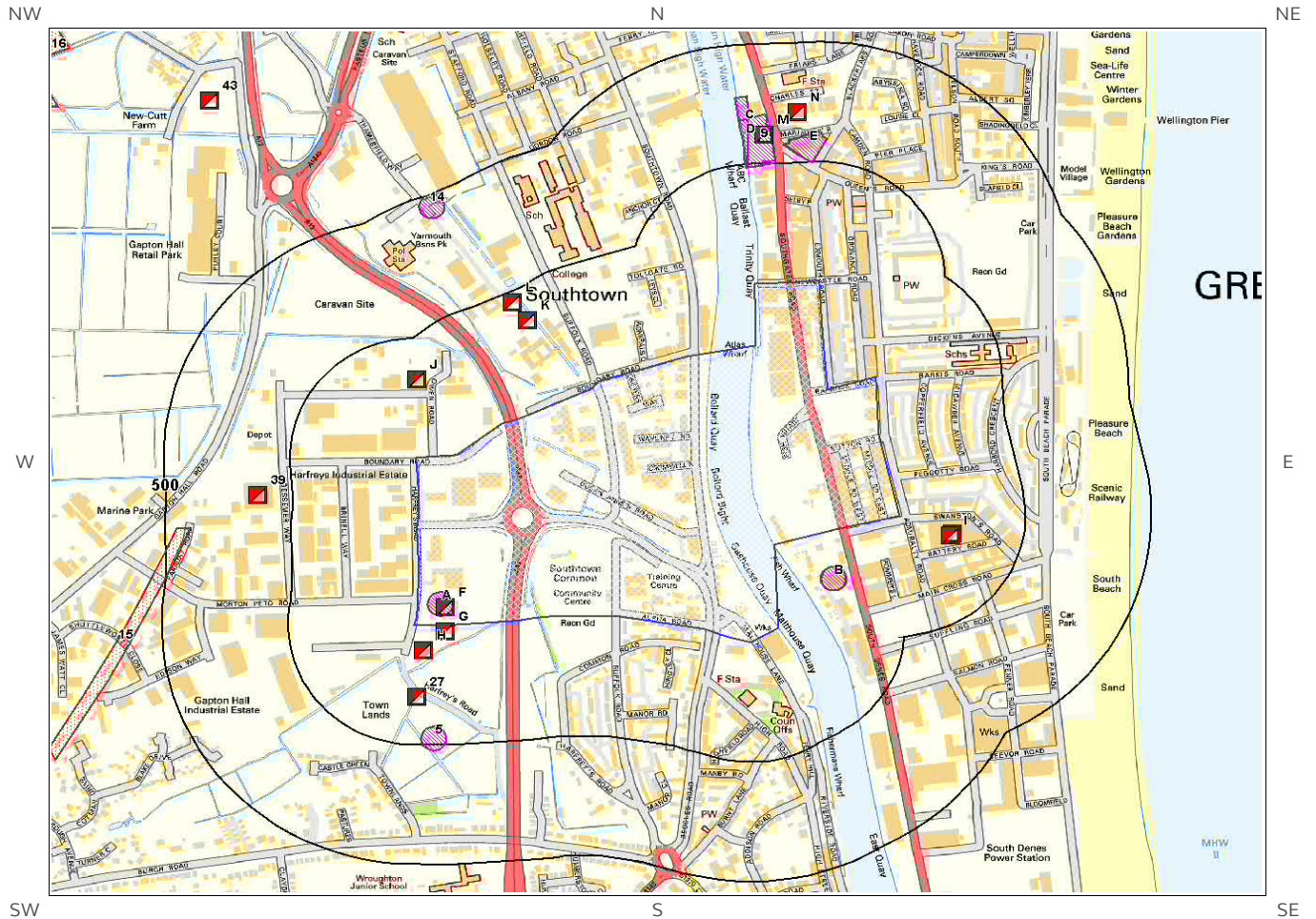
## 2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

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
- EA/NRW Active Landfill
- EA/NRW Historic Landfill
- BGS / DoE Survey Landfill
- Historic and Planned Waste Sites
- EA/NRW Licensed Waste Site
- Local Authority/Historical Mapping Landfill Records
- 250 Search Buffers (m)
- 500 Search Buffers (m)



# 3. Landfill and Other Waste Sites

## 3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

2

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
15	451	W	651200 305600	<p>Site Address: Gapton Hall Site, Between Harfeys Road and Burgh Road, Great Yarmouth</p> <p>Waste Licence: -</p> <p>Site Reference: WD 709a</p> <p>Waste Type: Inert, Industrial, Commercial, Household</p> <p>Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: County Council</p> <p>Licence Holder: Great Yarmouth Council</p> <p>First Recorded: 30-Jun-1973</p> <p>Last Recorded: 31-Dec-1974</p>
16	1020	NW	650900 307300	<p>Site Address: Cobholm Tip, Farm Lane, Humberstone, Great Yarmouth, Norfolk</p> <p>Waste Licence: Yes</p> <p>Site Reference: WD 506, WR 764, NFK/LS/060/0</p> <p>Waste Type: Inert, Industrial, Commercial, Household</p> <p>Environmental Permitting Regulations (Waste) Reference: AZ1/L/VIN001</p> <p>Licence Issue: 02-Jan-1974</p> <p>Licence Surrendered: Licence Holder Address: Humberstone Farm, Southtown, Great Yarmouth, Norfolk</p> <p>Operator: Gt Yarmouth Borough Council</p> <p>Licence Holder: W H Vincent</p> <p>First Recorded: 31-May-1905</p> <p>Last Recorded: 31-Dec-1995</p>

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

0

Database searched and no data found.

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

0

Database searched and no data found.

## 3.2 Other Waste Sites

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

14

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		
1A	0	On Site	651890 305707	Type of Site: Waste Recycling Centre Site Address: East Coast Waste, Harfreys Road, Harfreys Industrial Estate, GREAT YARMOUTH, Norfolk, NR31 0LS	Planning Application Reference: 06/07/0901/F Date: -	Further Details: Scheme comprises raise roof of waste recycling centre. An application (ref: 06/07/0901/F) for detailed planning permission was granted by Great Yarmouth B.C. Planning decision obtained Data Source: Historic Planning Application Data Type: Point
2A	0	On Site	651890 305707	Type of Site: Waste Recycling Centre Site Address: East Coast Waste, Harfreys Road, Harfreys Industrial Estate, GREAT YARMOUTH, Norfolk, NR31 0LS	Planning Application Reference: 06/07/0901/F Date: -	Further Details: Scheme comprises raise roof of waste recycling centre. An application (ref: 06/07/0901/F) for detailed planning permission was granted by Great Yarmouth B.C. Planning decision obtained Data Source: Historic Planning Application Data Type: Point

ID	Distance (m)	Direction	NGR	Details	
3B	74	S	652669 305759	<p>Type of Site: Waste Transfer Station</p> <p>Site Address: 52 South Denes Road, GREAT YARMOUTH, Norfolk, NR30 3PR</p> <p>Planning Application Reference: 6/95/593/F Date: -</p>	<p>Further Details: Comprises the installation of four new tanks totalling 82,000 gals for a new waste transfer station. Scheme comprises the installation of four new tanks totalling 82,000 gals for a new waste transfer station to control waste and cleaning within a containment area. This will include security fencing, loading areas and bollards. NEW INFORMATION: We are now advised that the land will be sold with the advantage of planning approval. An application (ref: 6/95/593/F) for Detailed Planning permission was submitted to Great Yarmouth B.C. on 3rd July 1995. Data Source: Historic Planning Application Data Type: Point</p>
4B	74	S	652670 305759	<p>Type of Site: Waste Transfer Station</p> <p>Site Address: ASCO UK Ltd, South Denes Road, GREAT YARMOUTH, Norfolk, NR30 3QF</p> <p>Planning Application Reference: 06/98/0582/F Date: 01/05/1999</p>	<p>Further Details: Construction of a waste transfer station. The work will involve the construction of a waste transfer station which will include a recycling centre. Also included is a main storage building with roller shutters, laboratory, changing rooms, mess and powerwash bays, portable buildings, toilets, offices and storage tanks. An application (ref: 06/98/0582/F) for Detailed Planning permission was granted by Great Yarmouth B.C. on 4th September 1998. Data Source: Historic Planning Application Data Type: Point</p>

ID	Distance (m)	Direction	NGR	Details		
5	212	S	651877 305425	Type of Site: Waste Transfer Station Site Address: Harfreys Road Industrial Site, GREAT YARMOUTH, Norfolk, NR30	Planning Application Reference: 98/0011 Date: 01/05/1998	Further Details: Improvements to works included 4 bulk storage tanks 2 x 5,000 gallons and 1 x 10,000 gallons and 1 x 12,000 gallons. Relocation of canopy tent and re-concreting of part of the yard with a new drainage system. Improvements to works included 4 bulk store tanks 2 x 5,000 gallons and 1 x 10,000 gallons and 1 x 12,000 gallons. Relocation of canopy tent and re-concreting of part of the yard with a new drainage system. NEW INFORMATION: Detailed plans approved by Norfolk County Council on the 3rd March, 1998. An application (ref: 98/0011) for Detailed Planning permission was granted by Great Yarmouth B.C. on 3rd March 1998. Data Source: Historic Planning Application Data Type: Point
6D	242	N	652491 306670	Type of Site: Scrap Iron Works Site Address: N/A	Planning Application Reference: N/A Date: 1967	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
7C	242	N	652495 306663	Type of Site: Scrap Iron Works Site Address: N/A	Planning Application Reference: N/A Date: 1987	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
8C	242	N	652495 306663	Type of Site: Scrap Iron Works Site Address: N/A	Planning Application Reference: N/A Date: 1987	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
9	242	N	652527 306675	Type of Site: Scrap Iron Works Site Address: N/A	Planning Application Reference: N/A Date: 1975	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
10D	242	N	652527 306675	Type of Site: Scrap Iron Works Site Address: N/A	Planning Application Reference: N/A Date: 1966	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
11E	249	N	652613 306663	Type of Site: Scrap Metal & Paper Merchants Site Address: N/A	Planning Application Reference: N/A Date: 1954	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
12E	249	N	652613 306663	Type of Site: Scrap Metal & Paper Merchants Site Address: N/A	Planning Application Reference: N/A Date: 1966	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
13E	250	N	652613 306663	Type of Site: Scrap Metal & Paper Merchants Site Address: N/A	Planning Application Reference: N/A Date: 1963	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

ID	Distance (m)	Direction	NGR	Details	
14	450	N	651873 306538	Type of Site: Recycling Centre (Conversion) Site Address: Premier Recycling, Thamesfield Way, Great Yarmouth Business Park, GREAT YARMOUTH, Norfolk, NR31 0DN	Planning Application Reference: 06/06/0399/F Date: -  Further Details: Scheme comprises change of use to allow for metal recycling operations to be included into allowed uses. An application (ref: 06/06/0399/F) for Detailed Planning permission was submitted to Great Yarmouth B.C. on 5th May 2006. Data Source: Historic Planning Application Data Type: Point

### 3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

35

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	
17F	0	On Site	651900 305700	Site Address: Lindgreat Yard, Harfreys Road, Great Yarmouth, Norfolk, NR31 0LS Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: THU005 EPR reference: - Operator: Thurtle Walter Waste Management licence No: 71429 Annual Tonnage: 25000.0	Issue Date: 08/04/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Lindgreat Yard Correspondence Address: Mr Gary Thurtle, Lindgreat Yard, Harfreys Road, Great Yarmouth, Norfolk, NR31 0LS
18F	0	On Site	651900 305700	Site Address: W T Waste, Harfreys Road, Harfreys Ind Est, Great Yarmouth, Norfolk, NR31 0LS Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: THU005 EPR reference: EA/EPR/CP3094NZ/V003 Operator: Thurtle Walter Waste Management licence No: 71429 Annual Tonnage: 25000.0	Issue Date: 08/04/2005 Effective Date: - Modified: 27/10/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: W T Waste Correspondence Address: -
19G	13	S	651900 305650	Site Address: Folkes Plant And Aggregate, Harfrey's Road, Harfrey's Industrial Est, Great Yarmouth, Norfolk, NR31 0LS Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: FOL001 EPR reference: EA/EPR/FP3394NJ/A001 Operator: Folkes Plant & Aggregate Ltd Waste Management licence No: 71417 Annual Tonnage: 24999.0	Issue Date: 13/07/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Folkes Plant And Aggregate Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details
20G	13	S	651900 305650	<p>Site Address: Land Off Harfreys Road, Harfreys Indus Est, Great Yarmouth, Norfolk, NR31 9PY</p> <p>Type: 75kte HCl Waste TS + treatment Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: FOL001 EPR reference: EA/EPR/FP3394NJ/V002 Operator: Folkes Plant &amp; Aggregates Limited</p> <p>Waste Management licence No: 71417 Annual Tonnage: 24999.0</p> <p>Issue Date: 13/07/2005 Effective Date: - Modified: 22/10/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified</p> <p>Site Name: Folkes Transfer Station Correspondence Address: -</p>
21G	13	S	651900 305650	<p>Site Address: Harfrey's Road, Harfrey's Industrial Est, Great Yarmouth, Norfolk, NR31 0LS</p> <p>Type: Household, Commercial &amp; Industrial Waste T Stn Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: FOL001 EPR reference: - Operator: Folkes Plant &amp; Aggregate Limited</p> <p>Waste Management licence No: 71417 Annual Tonnage: 24999.0</p> <p>Issue Date: 13/07/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued</p> <p>Site Name: Folkes Plant And Aggregate Correspondence Address: W. A. S. Ltd, P O Box 151, Lowestoft, Suffolk, NR32 3ZQ</p>
22H	53	S	651857 305610	<p>Site Address: Hafreys Industrial Estate, Hafreys Road, Great Yarmouth, Norfolk, NR31 0JR</p> <p>Type: Special Waste Transfer Station Size: &gt;= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MRP001 EPR reference: - Operator: Clements P</p> <p>Waste Management licence No: 70532 Annual Tonnage: 0.0</p> <p>Issue Date: 04/01/1990 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued</p> <p>Site Name: Great Yarmouth Correspondence Address: 74, Southdown Road, Great Yarmouth, Norfolk, NR31 0JR</p>
23H	53	S	651857 305610	<p>Site Address: Harfreys Industrial Estate, Harfreys Road, Great Yarmouth, Norfolk, NR31 0LS</p> <p>Type: Special Waste Transfer Station Size: &gt;= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MRP001 EPR reference: EA/EPR/YP3299NB/A001 Operator: Clements Paul</p> <p>Waste Management licence No: 70532 Annual Tonnage: 62500.0</p> <p>Issue Date: 04/01/1990 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued</p> <p>Site Name: Great Yarmouth Correspondence Address: -</p>
24I	108	SE	652900 305850	<p>Site Address: Hendee House, Battery Road, Great Yarmouth, Norfolk, NR30 3NN</p> <p>Type: Asbestos Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: EAS147 EPR reference: EA/EPR/AB3801UE/S002 Operator: East Coast Insulations Limited</p> <p>Waste Management licence No: 71491 Annual Tonnage: 0.0</p> <p>Issue Date: 10/11/2006 Effective Date: 14/11/2013 Modified: 17/03/2011 Surrendered Date: 03/05/2016 Expiry Date: - Cancelled Date: - Status: Surrendered</p> <p>Site Name: Hendee House Correspondence Address: -</p>



ID	Distance (m)	Direction	NGR	Details
25I	108	SE	652900 305850	<p>Site Address: Hendee House, Battery Road, Great Yarmouth, Norfolk, NR30 3NN</p> <p>Type: Asbestos Waste Transfer Station</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LEA002</p> <p>EPR reference: EA/EPR/VP3494NV/V002</p> <p>Operator: Mr Rodney John Lear And Mrs Pamela Margaret Lear</p> <p>Waste Management licence No: 71491</p> <p>Annual Tonnage: 3650.0</p> <p>Issue Date: 10/11/2006</p> <p>Effective Date: -</p> <p>Modified: 17/03/2011</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Hendee House</p> <p>Correspondence Address: -</p>
26I	111	E	652905 305855	<p>Site Address: Hendee House, Battery Road, Great Yarmouth, Norfolk, NR30 3NW</p> <p>Type: Special Waste Transfer Station</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LEA002</p> <p>EPR reference: VP3494NV/A001</p> <p>Operator: R J Lear And P M Lear</p> <p>Waste Management licence No: 71491</p> <p>Annual Tonnage: 3650.0</p> <p>Issue Date: 10/11/2006</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Hendee House, Battery Road</p> <p>Correspondence Address: -</p>
27	150	S	651843 305513	<p>Site Address: Hafrey's Road Transfer Station, Hafrey's Road, Townlands, Great Yarmouth, Norfolk, NR31 8JL</p> <p>Type: Inert &amp; excavation Waste TS + treatment</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: GRE397</p> <p>EPR reference: EA/EPR/EB3535AM/V002</p> <p>Operator: E E Green &amp; Son Ltd</p> <p>Waste Management licence No: 103802</p> <p>Annual Tonnage: 74999.0</p> <p>Issue Date: 23/01/2012</p> <p>Effective Date: -</p> <p>Modified: 01/05/2015</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Hafrey's Road Transfer Station</p> <p>Correspondence Address: -</p>
28J	163	N	651844 306177	<p>Site Address: Unit 2, Bessemer Way, Hafreys Industrial Estate, Great Yarmouth, NR31 0LX</p> <p>Type: Special Waste Transfer Station</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: UKW001</p> <p>EPR reference: -</p> <p>Operator: U K Waste Management Ltd</p> <p>Waste Management licence No: 70505</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 01/05/1992</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Great Yarmouth</p> <p>Correspondence Address: Head Office, Coronation Road, Cressex, High Wycombe, HP12 3TZ</p>
29J	163	N	651844 306177	<p>Site Address: Unit 2, Bessemer Way, Hafreys Industrial Estate, Great Yarmouth, Norfolk, NR31 0LX</p> <p>Type: Special Waste Transfer Station</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: UKW003</p> <p>EPR reference: EA/EPR/KP3898VU/V002</p> <p>Operator: Biffa Waste Services Ltd</p> <p>Waste Management licence No: 70505</p> <p>Annual Tonnage: 4999.0</p> <p>Issue Date: 01/05/1992</p> <p>Effective Date: -</p> <p>Modified: 02/04/2012</p> <p>Surrendered Date: 0</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Biffa Waste Services Ltd</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
30J	163	N	651844 306177	<p>Site Address: Unit 2, Bessemer Way, Hafreys Industrial Estate, Great Yarmouth, Norfolk, NR31 0LX</p> <p>Type: Special Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: AUG012 EPR reference: EA/EPR/EB3001TS/T001 Operator: Augean North Sea Services Limited</p> <p>Waste Management licence No: 70505 Annual Tonnage: 4999.0</p>	<p>Issue Date: 01/05/1992 Effective Date: 19/04/2016 Modified: 02/04/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred</p> <p>Site Name: Great Yarmouth Waste Management Resource Centre Correspondence Address: -</p>
31K	183	NW	652062 306301	<p>Site Address: Yarmouth Business Park, Suffolk Road, Great Yarmouth, Norfolk, NR31 0ER</p> <p>Type: Special Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MIT001 EPR reference: EA/EPR/YP3799NF/V002 Operator: Mitchell Cliff</p> <p>Waste Management licence No: 70536 Annual Tonnage: 5000.0</p>	<p>Issue Date: 03/09/1991 Effective Date: - Modified: 26/01/2006 Surrendered Date: 0 Expiry Date: - Cancelled Date: - Status: Modified</p> <p>Site Name: C + L Waste Oil Collection Correspondence Address: -</p>
32K	183	NW	652062 306301	<p>Site Address: Yarmouth Business Park, Thamesfield Way, Great Yarmouth, Norfolk, NR31 0DN</p> <p>Type: Special Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MIT001 EPR reference: EA/EPR/YP3799NF/V003 Operator: Mitchell C B</p> <p>Waste Management licence No: 70536 Annual Tonnage: 5000.0</p>	<p>Issue Date: 03/09/1991 Effective Date: - Modified: 10/05/2016 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified</p> <p>Site Name: Great Yarmouth Oil Reclamation Facility Correspondence Address: -</p>
33L	229	NW	652033 306339	<p>Site Address: Yarmouth Business Park, Suffolk Road, Great Yarmouth, Norfolk, NR31 0ER</p> <p>Type: Special Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MRE001 EPR reference: - Operator: Brown E W</p> <p>Waste Management licence No: 70535 Annual Tonnage: 0.0</p>	<p>Issue Date: 03/09/1991 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued</p> <p>Site Name: Great Yarmouth Correspondence Address: Brookfields Business Centre, Cottenham, Cambridge, CB4 8PS</p>
34L	229	NW	652033 306339	<p>Site Address: Yarmouth Business Park, Suffolk Road, Great Yarmouth, Norfolk, NR31 0ER</p> <p>Type: Special Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MA001 EPR reference: - Operator: Malary Environmental Services Ltd</p> <p>Waste Management licence No: 70535 Annual Tonnage: 0.0</p>	<p>Issue Date: 03/09/1991 Effective Date: 01/07/2004 Modified: 01/07/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified</p> <p>Site Name: Yarmouth Business Park Correspondence Address: D Stapleton, Brookfield Business Centre, Unit B1, Twenty Pence Road, Cottenham, Cambridge, CB4 8PS</p>

ID	Distance (m)	Direction	NGR	Details
35L	229	NW	652033 306339	<p>Site Address: Yarmouth Business Park, Suffolk Road, Great Yarmouth, Norfolk, NR31 0ER</p> <p>Type: Special Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MAL001 EPR reference: EA/EPR/YP3199NQ/S004 Operator: Malary Ltd Waste Management licence No: 70535 Annual Tonnage: 0.0</p> <p>Issue Date: 03/09/1991 Effective Date: 23/11/2006 Modified: 01/07/2004 Surrendered Date: 14/03/2007 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Yarmouth Business Park Correspondence Address: -</p>
36L	229	NW	652033 306339	<p>Site Address: Yarmouth Business Park, Suffolk Road, Great Yarmouth, Norfolk, NR31 0ER</p> <p>Type: Special Waste Transfer Station Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MA001 EPR reference: - Operator: Malary Environmental Services Ltd Waste Management licence No: 70535 Annual Tonnage: 0.0</p> <p>Issue Date: 03/09/1991 Effective Date: 01/07/2004 Modified: 01/07/2004 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Yarmouth Business Park Correspondence Address: Brookfield Business Centre, Unit B1, Twentypence Road, Cottenham, Cambridge, CB4 8PS</p>
37M	310	N	652531 306688	<p>Site Address: 132b, South Quay, Great Yarmouth, Norfolk, NR30 3LD</p> <p>Type: Metal Recycling Site (mixed MRS's) Size: &gt;= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MAY001 EPR reference: EA/EPR/AP3999NE/V002 Operator: Mayer Parry ( East Anglia ) Ltd Waste Management licence No: 70493 Annual Tonnage: 78000.0</p> <p>Issue Date: 23/08/1993 Effective Date: - Modified: 11/12/1992 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Great Yarmouth Correspondence Address: -</p>
38M	310	N	652531 306688	<p>Site Address: South Quay, Great Yarmouth, Norfolk, NR30 3LD</p> <p>Type: Metal Recycling Site (mixed MRS's) Size: &gt;= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MAY001 EPR reference: - Operator: Mayer Parry East Anglia Ltd Waste Management licence No: 70493 Annual Tonnage: 0.0</p> <p>Issue Date: 23/08/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Great Yarmouth Correspondence Address: 111, Fordham Road, Snailwell, Newmarket, Suffolk, CB8 7ND</p>
39	319	W	651529 305936	<p>Site Address: Bessemer Way, Hafreys Industrial Estate, Great Yarmouth, Norfolk, NR31 0LX</p> <p>Type: Household, Commercial &amp; Industrial Waste T Stn Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: TRA001 EPR reference: EA/EPR/YP3699NT/S002 Operator: Transmit Containers Ltd Waste Management licence No: 70534 Annual Tonnage: 432.0</p> <p>Issue Date: 06/12/1990 Effective Date: - Modified: - Surrendered Date: 14/11/2003 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Great Yarmouth Correspondence Address: -</p>

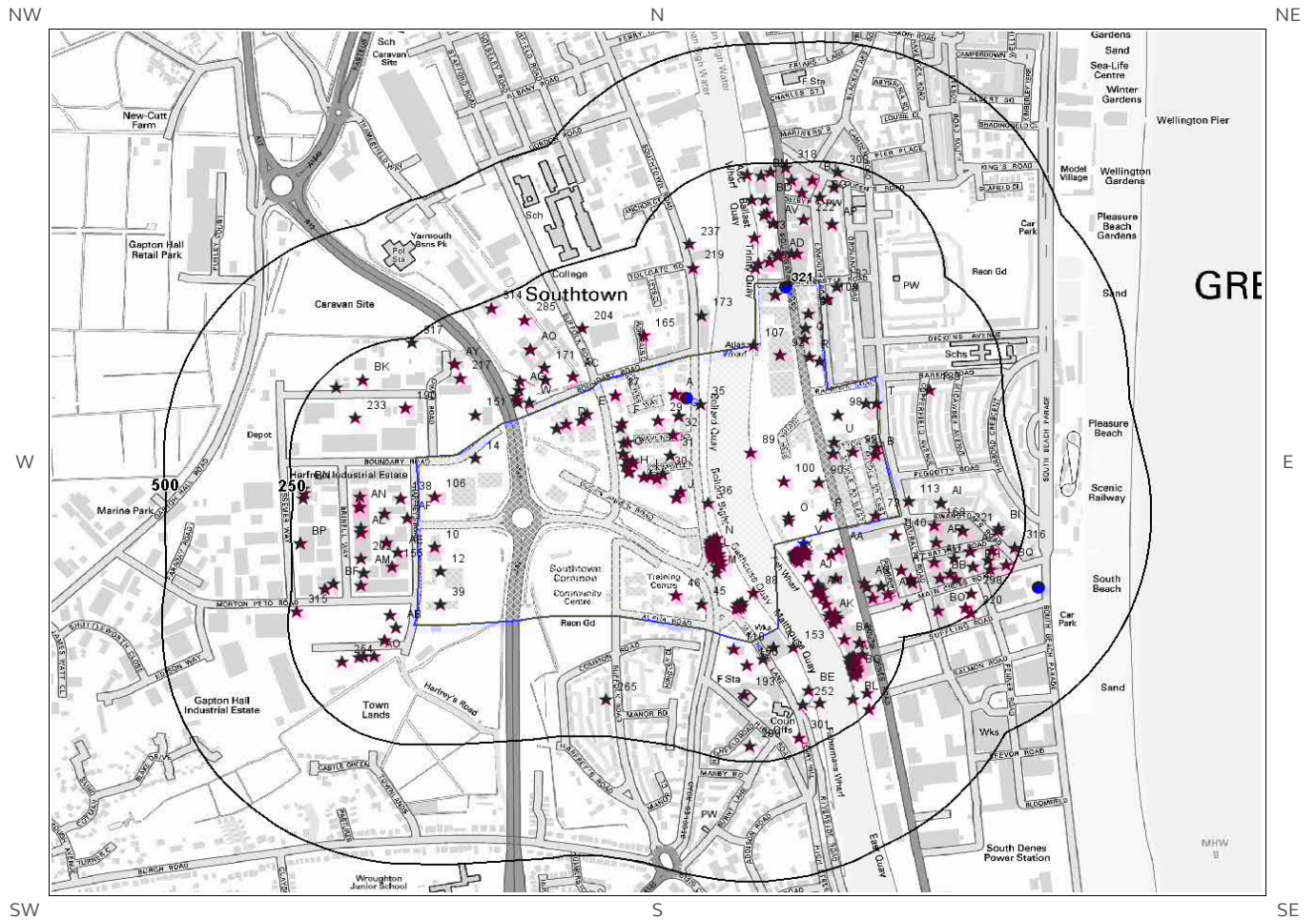
ID	Distance (m)	Direction	NGR	Details
40N	354	N	652597 306735	<p>Site Address: G A Car Spares, 127/129, South Quay, Great Yarmouth, Norfolk, NR30 3LD</p> <p>Type: Vehicle Depollution Facility &lt;5000 tps</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ALL136</p> <p>EPR reference: EA/EPR/JB3537RX/A001</p> <p>Operator: Allard Michael</p> <p>Waste Management licence No: 104491</p> <p>Annual Tonnage: 4999.0</p> <p>Issue Date: 31/07/2012</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: G A Car Spares</p> <p>Correspondence Address: -</p>
41N	354	N	652597 306735	<p>Site Address: G &amp; A Car Spares, 127 - 129, South Quay, Great Yarmouth, Norfolk, NR30 3LD</p> <p>Type: Vehicle Depollution Facility &lt;5000 tps</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: GAC002</p> <p>EPR reference: EA/EPR/CB3702FS/V002</p> <p>Operator: G &amp; A Car Spares Limited</p> <p>Waste Management licence No: 104491</p> <p>Annual Tonnage: 4999.0</p> <p>Issue Date: 31/07/2012</p> <p>Effective Date: 06/06/2015</p> <p>Modified: 18/08/2016</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: G &amp; A Car Spares</p> <p>Correspondence Address: -</p>
Not shown	766	W	651080 305911	<p>Site Address: D&amp;j Metals, Vanguard Road, Gapton Hall Ind Est, Great Yarmouth, Norfolk, NR31 0NT</p> <p>Type: Metal Recycling Site (mixed MRS's)</p> <p>Size: &gt;= 25000 tonnes &lt; 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: DOU001</p> <p>EPR reference: EA/EPR/RP3099NN/A001</p> <p>Operator: Mr Douglas Victor Gray And Mr John Gray</p> <p>Waste Management licence No: 70504</p> <p>Annual Tonnage: 24999.0</p> <p>Issue Date: 22/02/1995</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Great Yarmouth</p> <p>Correspondence Address: -</p>
43	853	NW	651432 306761	<p>Site Address: Land / Premises At, High Mill Link Road, Cobholm, Great Yarmouth, Norfolk, NR31 0DL</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: DOC001</p> <p>EPR reference: EA/EPR/KP3694NT/A001</p> <p>Operator: Docwra Mike</p> <p>Waste Management licence No: 71385</p> <p>Annual Tonnage: 2499.0</p> <p>Issue Date: 25/11/2004</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Mike Docwra Car Breakers</p> <p>Correspondence Address: -</p>
Not shown	874	W	650971 305888	<p>Site Address: Vanguard Road, Gapton Hall Ind Est, Great Yarmouth, Norfolk, NR31 0NT</p> <p>Type: Metal Recycling Site (mixed MRS's)</p> <p>Size: &gt;= 25000 tonnes &lt; 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: DOU001</p> <p>EPR reference: -</p> <p>Operator: D &amp; J Metals</p> <p>Waste Management licence No: 70504</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 22/02/1995</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Great Yarmouth</p> <p>Correspondence Address: Vanguard Road, Gapton Hall Ind. Est, Great Yarmouth, Norfolk, NR31 0NT</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	874	W	650971 305888	<p>Site Address: Vanguard Road, Gapton Hall Ind Estate, Great Yarmouth, Norfolk, NR31 0NT</p> <p>Type: Household, Commercial &amp; Industrial Waste T Stn</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: GRA001</p> <p>EPR reference: -</p> <p>Operator: Gray Douglas Victor</p> <p>Waste Management licence No: 71237</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 13/11/1998</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Great Yarmouth</p> <p>Correspondence Address: Vanguard Road, Gapton Hall Ind Estate, Great Yarmouth, Norfolk, NR31 0NT</p>
Not shown	874	W	650971 305888	<p>Site Address: Land / Premises At, Vanguard Road, Gapton Hall Ind Estate, Great Yarmouth, Norfolk, NR31 0NT</p> <p>Type: 75kte HCI Waste TS + asbestos</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: GRA001</p> <p>EPR reference: EA/EPR/DP3699LH/V003</p> <p>Operator: Gray Douglas Victor</p> <p>Waste Management licence No: 71237</p> <p>Annual Tonnage: 24999.0</p> <p>Issue Date: 13/11/1998</p> <p>Effective Date: -</p> <p>Modified: 19/03/2009</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: D And J Metals</p> <p>Correspondence Address: -</p>
Not shown	1329	SE	653041 304410	<p>Site Address: Technical Waste Management Centre, South Denes Road, Great Yarmouth, Norfolk, NR30 3LY</p> <p>Type: Special Waste Transfer Station</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ASC002</p> <p>EPR reference: -</p> <p>Operator: A S C O ( U K ) Ltd</p> <p>Waste Management licence No: 71257</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 24/01/2001</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Great Yarmouth</p> <p>Correspondence Address: Offshore Supply Base, South Denes Road, Great Yarmouth, Norfolk, NR30 3LY</p>
Not shown	1329	SE	653041 304410	<p>Site Address: Technical Waste Management Centre, South Denes Road, Great Yarmouth, Norfolk, NR30 3LY</p> <p>Type: Special Waste Transfer Station</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ASC002</p> <p>EPR reference: -</p> <p>Operator: A S C O ( U K ) Ltd</p> <p>Waste Management licence No: 71257</p> <p>Annual Tonnage: 24999.0</p> <p>Issue Date: 24/01/2001</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Great Yarmouth</p> <p>Correspondence Address: Offshore Supply Base, South Denes Road, Great Yarmouth, Norfolk, NR30 3LY</p>
Not shown	1329	SE	653041 304410	<p>Site Address: Technical Waste Management Centre, South Denes Road, Great Yarmouth, Norfolk, NR30 3LY</p> <p>Type: Special Waste Transfer Station</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ENV230</p> <p>EPR reference: EA/EPR/QP3898NL/T002</p> <p>Operator: Enviroco Ltd</p> <p>Waste Management licence No: 71257</p> <p>Annual Tonnage: 24999.0</p> <p>Issue Date: 24/01/2001</p> <p>Effective Date: 13/03/2008</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Transferred</p> <p>Site Name: Great Yarmouth</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	1359	SE	653066 304389	Site Address: Great Yarmouth Technical Waste Management Centre, Berths 2-4, South Denes Road, Great Yarmouth, Norfolk, NR30 3QF Type: Physical Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ENV230 EPR reference: EA/EPR/PP3532UT/V005 Operator: Enviroco Limited Waste Management licence No: 71257 Annual Tonnage: 24999.0	Issue Date: 24/01/2001 Effective Date: 13/03/2008 Modified: 25/01/2016 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Great Yarmouth Technical Waste Management Centre Correspondence Address: -
Not shown	1359	SE	653066 304389	Site Address: Great Yarmouth Technical Waste Management Centre, Berths 2-4, South Denes Road, Great Yarmouth, Norfolk, NR30 3QF Type: Physical Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ENV230 EPR reference: EA/EPR/PP3532UT/V004 Operator: Enviroco Ltd Waste Management licence No: 71257 Annual Tonnage: 24999.0	Issue Date: 24/01/2001 Effective Date: 13/03/2008 Modified: 16/05/2013 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Great Yarmouth Technical Waste Management Centre Correspondence Address: -



# 4. Current Land Use Map



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Site Outline

★ Current Industrial Sites

— Electricity Transmission Cables

— 250 — Search Buffers (m)  
— 500 —

● Petrol & Fuel Sites

— Gas Transmission Pipelines

## 4. Current Land Uses

### 4.1 Current Industrial Data

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

320

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1H	0	On Site	Simpsons Skoda	652263 305982	Simpsons Skoda, Unit 1, Suffolk Road, Great Yarmouth, NR31 0LN	New Vehicles	Motoring
2D	0	On Site	3 Sun Group	652140 306084	3 Sun Group, 3sun House, Boundary Road, Great Yarmouth, NR31 0FB	Electronic Equipment	Industrial Products
3A	0	On Site	Kirkley Tyres & Wheels	652355 306146	Kirkley Tyres & Wheels, 126, Southtown Road, Great Yarmouth, NR31 0JZ	Vehicle Repair, Testing and Servicing	Repair and Servicing
4A	0	On Site	BP Service Station	652355 306146	BP Service Station, 126, Southtown Road, Great Yarmouth, NR31 0JZ	Petrol and Fuel Stations	Road and Rail
5B	0	On Site	Stalwart Signs & Industrial Supplies Ltd	652752 306021	Stalwart Signs & Industrial Supplies Ltd, Anglian House, Admiralty Road, Great Yarmouth, NR30 3DY	Special Purpose Machinery and Equipment	Industrial Products
6B	0	On Site	Discount Sheds & Stables	652752 306021	Discount Sheds & Stables, Anglian House, Admiralty Road, Great Yarmouth, NR30 3DY	Garden Goods	Consumer Products
7F	0	On Site	Suffolk Road Motoring Services	652250 306086	Suffolk Road Motoring Services, Unit 8-9, Suffolk Road, Great Yarmouth, NR31 0LN	Vehicle Repair, Testing and Servicing	Repair and Servicing
8C	0	On Site	J D Moore	652362 306101	J D Moore, 128, Southtown Road, Great Yarmouth, NR31 0LA	Vehicle Repair, Testing and Servicing	Repair and Servicing
9C	0	On Site	Southtown Cars	652362 306101	Southtown Cars, 128, Southtown Road, Great Yarmouth, NR31 0LA	Secondhand Vehicles	Motoring
10	0	On Site	L G Perfect	651878 305826	L G Perfect, Harfreys Road, Great Yarmouth, NR31 0JL	Vehicle Repair, Testing and Servicing	Repair and Servicing
11R	0	On Site	Afordable Cars	652621 306224	Afordable Cars, 41a, Southgates Road, Great Yarmouth, NR30 3LL	Secondhand Vehicles	Motoring
12	0	On Site	Weatherford UK	651890 305776	Weatherford UK, Harfreys Road, Great Yarmouth, NR31 0LS	Special Purpose Machinery and Equipment	Industrial Products
13E	0	On Site	Pumping Station	652180 306105	Pumping Station, NR31	Water Pumping Stations	Industrial Features

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
14	0	On Site	Electricity Sub Station	651959 306013	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
15D	0	On Site	Depot	652121 306075	Depot, NR31	Container and Storage	Transport, Storage and Delivery
16E	0	On Site	Electricity Sub Station	652169 306091	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
17	0	On Site	Mitchells Renault	652238 306144	Mitchells Renault, Suffolk Road, Great Yarmouth, NR31 0LN	Vehicle Repair, Testing and Servicing	Repair and Servicing
18F	0	On Site	Warehouse	652246 306076	Warehouse, NR31	Container and Storage	Transport, Storage and Delivery
19G	0	On Site	Warehouse	652253 306022	Warehouse, NR31	Container and Storage	Transport, Storage and Delivery
20G	0	On Site	Works	652254 306045	Works, NR31	Unspecified Works Or Factories	Industrial Features
21G	0	On Site	Depot	652257 305997	Depot, NR31	Container and Storage	Transport, Storage and Delivery
22G	0	On Site	Warehouse	652260 306010	Warehouse, NR31	Container and Storage	Transport, Storage and Delivery
23G	0	On Site	Tank	652262 306047	Tank, NR31	Tanks (Generic)	Industrial Features
24H	0	On Site	Works	652265 305985	Works, NR31	Unspecified Works Or Factories	Industrial Features
25H	0	On Site	Tank	652271 306007	Tank, NR31	Tanks (Generic)	Industrial Features
26I	0	On Site	Warehouse	652293 305974	Warehouse, NR31	Container and Storage	Transport, Storage and Delivery
27I	0	On Site	Works	652306 305976	Works, NR31	Unspecified Works Or Factories	Industrial Features
28I	0	On Site	Works	652320 305970	Works, NR31	Unspecified Works Or Factories	Industrial Features
29	0	On Site	Works	652322 306092	Works, NR31	Unspecified Works Or Factories	Industrial Features
30	0	On Site	Depot	652330 305980	Depot, NR31	Container and Storage	Transport, Storage and Delivery
31	0	On Site	Works	652345 306019	Works, NR31	Unspecified Works Or Factories	Industrial Features
32	0	On Site	Works	652351 306061	Works, NR31	Unspecified Works Or Factories	Industrial Features
33J	0	On Site	Peter Doidge	652359 305931	Peter Doidge, Southtown Road, Great Yarmouth, NR31 0LA	Vehicle Parts and Accessories	Motoring
34J	0	On Site	Tank	652366 305943	Tank, NR31	Tanks (Generic)	Industrial Features
35	0	On Site	Quay	652406 306126	Quay, NR31	Moorings and Unloading Facilities	Water
36	0	On Site	Quay	652420 305919	Quay, NR31	Moorings and Unloading Facilities	Water
37J	0	On Site	Depot	652358 305931	Depot, NR31	Container and Storage	Transport, Storage and Delivery
38G	0	On Site	Tank	652272 306002	Tank, NR31	Tanks (Generic)	Industrial Features

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
39	0	On Site	East Coast Waste	651890 305707	East Coast Waste, Harfreys Road, Great Yarmouth, NR31 0LS	Construction and Tool Hire	Hire Services
40A	0	On Site	Southtown Service Station	652355 306146	Southtown Service Station, 126, Southtown Road, Great Yarmouth, NR31 0JZ	Petrol and Fuel Stations	Road and Rail
41K	0	On Site	Tank	652479 305698	Tank, NR31	Tanks (Generic)	Industrial Features
42K	0	On Site	Tank	652477 305700	Tank, NR31	Tanks (Generic)	Industrial Features
43K	0	On Site	Tank	652482 305704	Tank, NR31	Tanks (Generic)	Industrial Features
44K	0	On Site	Tank	652489 305704	Tank, NR31	Tanks (Generic)	Industrial Features
45	0	On Site	Electricity Sub Station	652408 305708	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
46	0	On Site	Gas Distribution Station	652358 305726	Gas Distribution Station, NR31	Gas Features	Infrastructure and Facilities
47L	0	On Site	Tank	652428 305809	Tank, NR31	Tanks (Generic)	Industrial Features
48M	0	On Site	Electricity Sub Station	652438 305774	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
49L	0	On Site	Tank	652437 305786	Tank, NR31	Tanks (Generic)	Industrial Features
50M	0	On Site	Tank	652448 305789	Tank, NR31	Tanks (Generic)	Industrial Features
51L	0	On Site	Tank	652447 305798	Tank, NR31	Tanks (Generic)	Industrial Features
52L	0	On Site	Tank	652435 305804	Tank, NR31	Tanks (Generic)	Industrial Features
53L	0	On Site	Tank	652434 305820	Tank, NR31	Tanks (Generic)	Industrial Features
54L	0	On Site	Tank	652428 305805	Tank, NR31	Tanks (Generic)	Industrial Features
55L	0	On Site	Tank	652439 305805	Tank, NR31	Tanks (Generic)	Industrial Features
56L	0	On Site	Tank	652439 305825	Tank, NR31	Tanks (Generic)	Industrial Features
57L	0	On Site	Tank	652425 305831	Tank, NR31	Tanks (Generic)	Industrial Features
58L	0	On Site	Tank	652432 305811	Tank, NR31	Tanks (Generic)	Industrial Features
59L	0	On Site	Tank	652435 305811	Tank, NR31	Tanks (Generic)	Industrial Features
60L	0	On Site	Tank	652439 305812	Tank, NR31	Tanks (Generic)	Industrial Features
61L	0	On Site	Tank	652427 305815	Tank, NR31	Tanks (Generic)	Industrial Features
62L	0	On Site	Tank	652431 305816	Tank, NR31	Tanks (Generic)	Industrial Features
63L	0	On Site	Tank	652425 305824	Tank, NR31	Tanks (Generic)	Industrial Features

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
64L	0	On Site	Tank	652429 305825	Tank, NR31	Tanks (Generic)	Industrial Features
65L	0	On Site	Tank	652439 305832	Tank, NR31	Tanks (Generic)	Industrial Features
66L	0	On Site	Tank	652430 305832	Tank, NR31	Tanks (Generic)	Industrial Features
67N	0	On Site	Tank	652433 305836	Tank, NR31	Tanks (Generic)	Industrial Features
68N	0	On Site	Tank	652425 305840	Tank, NR31	Tanks (Generic)	Industrial Features
69N	0	On Site	Tank	652434 305841	Tank, NR31	Tanks (Generic)	Industrial Features
70N	0	On Site	Tank	652437 305846	Tank, NR31	Tanks (Generic)	Industrial Features
71O	0	On Site	Broadland Fuels	652580 305882	Broadland Fuels, Fishwharf, Great Yarmouth, NR30 3LX	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden
72O	0	On Site	Depot	652581 305889	Depot, NR30	Container and Storage	Transport, Storage and Delivery
73	0	On Site	Works	652752 305893	Works, NR30	Unspecified Works Or Factories	Industrial Features
74K	0	On Site	Tank	652485 305706	Tank, NR31	Tanks (Generic)	Industrial Features
75L	0	On Site	Tank	652434 305832	Tank, NR31	Tanks (Generic)	Industrial Features
76K	0	On Site	Tank	652489 305711	Tank, NR31	Tanks (Generic)	Industrial Features
77L	0	On Site	Tank	652426 305819	Tank, NR31	Tanks (Generic)	Industrial Features
78L	0	On Site	Tank	652443 305812	Tank, NR31	Tanks (Generic)	Industrial Features
79N	0	On Site	Tank	652432 305845	Tank, NR31	Tanks (Generic)	Industrial Features
80L	0	On Site	Tank	652443 305805	Tank, NR31	Tanks (Generic)	Industrial Features
81K	0	On Site	Tank	652484 305700	Tank, NR31	Tanks (Generic)	Industrial Features
82L	0	On Site	Tank	652424 305835	Tank, NR31	Tanks (Generic)	Industrial Features
83K	0	On Site	Tank	652484 305710	Tank, NR31	Tanks (Generic)	Industrial Features
84N	0	On Site	Tank	652429 305836	Tank, NR31	Tanks (Generic)	Industrial Features
85P	0	On Site	Works	652649 305892	Works, NR30	Unspecified Works Or Factories	Industrial Features
86P	0	On Site	Electricity Sub Station	652658 305895	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
87K	0	On Site	Tank	652479 305707	Tank, NR31	Tanks (Generic)	Industrial Features
88	0	On Site	Gashouse Quay	652510 305731	Gashouse Quay, NR31	Moorings and Unloading Facilities	Water
89	0	On Site	Fish Wharf	652506 306025	Fish Wharf, NR30	Moorings and Unloading Facilities	Water



ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
90	0	On Site	Works	652640 305962	Works, NR30	Unspecified Works Or Factories	Industrial Features
91S	0	On Site	BP Service Station	652554 306353	BP Service Station, Southgates Road, Great Yarmouth, NR30 3LL	Petrol and Fuel Stations	Road and Rail
92	0	On Site	Warehouse	652564 306228	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
93Q	0	On Site	Depot	652613 306262	Depot, NR30	Container and Storage	Transport, Storage and Delivery
94Q	0	On Site	Score Group Plc	652614 306284	Score Group Plc, 33-36, Southgates Road, Great Yarmouth, NR30 3LL	Seals, Tapes, Taps and Valves	Industrial Products
95	0	On Site	Works	652619 306314	Works, NR30	Unspecified Works Or Factories	Industrial Features
96R	0	On Site	Depot	652643 306215	Depot, NR30	Container and Storage	Transport, Storage and Delivery
97U	0	On Site	Depot	652670 306047	Depot, NR30	Container and Storage	Transport, Storage and Delivery
98	0	On Site	Depot	652678 306104	Depot, NR30	Container and Storage	Transport, Storage and Delivery
99	0	On Site	Factory	652708 306026	Factory, NR30	Unspecified Works Or Factories	Industrial Features
100	0	On Site	Depot	652571 305965	Depot, NR30	Container and Storage	Transport, Storage and Delivery
101T	0	On Site	Electricity Sub Station	652755 306127	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
102B	0	On Site	Works	652755 306035	Works, NR30	Unspecified Works Or Factories	Industrial Features
103S	0	On Site	South Quay Service Station	652554 306353	South Quay Service Station, Southgates Road, Great Yarmouth, NR30 3LL	Petrol and Fuel Stations	Road and Rail
104T	0	On Site	Gas Holder Station	652734 306128	Gas Holder Station, NR30	Gas Features	Infrastructure and Facilities
105U	0	On Site	H S Fishing 2000 Ltd	652669 306023	H S Fishing 2000 Ltd, Sutton Road, Great Yarmouth, NR30 3NA	Fish, Meat and Poultry Products	Foodstuffs
106	0	On Site	Noritake Itron	651879 305932	Noritake Itron, Vantage House, Harfreys Road, Great Yarmouth, NR31 0LS	Electrical Components	Industrial Products
107	2	N	Atlas Wharf	652511 306249	Atlas Wharf, NR30	Moorings and Unloading Facilities	Water
108V	11	S	Electricity Sub Station	652611 305835	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
109	13	E	Factory	652657 306344	Factory, NR30	Unspecified Works Or Factories	Industrial Features
110	22	S	C L S Offshore	652471 305612	C L S Offshore, Maltings House, Malthouse Lane, Gorleston, Great Yarmouth, NR31 0GY	Special Purpose Machinery and Equipment	Industrial Products
111A F	23	W	Electricity Sub Station	651824 305887	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
112W	24	NW	Tank	652066 306129	Tank, NR31	Tanks (Generic)	Industrial Features



ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
113	24	E	Southgates UK	652817 305922	Southgates UK, Oilmar House, Admiralty Road, Great Yarmouth, NR30 3NG	Vehicle Repair, Testing and Servicing	Repair and Servicing
114V	24	S	Tank	652599 305818	Tank, NR30	Tanks (Generic)	Industrial Features
115V	25	S	Tank	652595 305816	Tank, NR30	Tanks (Generic)	Industrial Features
116V	25	S	Tank	652604 305818	Tank, NR30	Tanks (Generic)	Industrial Features
117V	25	S	Tank	652608 305819	Tank, NR30	Tanks (Generic)	Industrial Features
118V	26	S	Tank	652613 305820	Tank, NR30	Tanks (Generic)	Industrial Features
119V	26	S	Tank	652592 305814	Tank, NR30	Tanks (Generic)	Industrial Features
120V	28	S	Tank	652597 305813	Tank, NR30	Tanks (Generic)	Industrial Features
121V	29	S	Tank	652594 305812	Tank, NR30	Tanks (Generic)	Industrial Features
122V	29	S	Tank	652590 305810	Tank, NR30	Tanks (Generic)	Industrial Features
123V	30	S	Tank	652609 305815	Tank, NR30	Tanks (Generic)	Industrial Features
124V	30	S	Tank	652615 305816	Tank, NR30	Tanks (Generic)	Industrial Features
125V	30	S	Tank	652605 305813	Tank, NR30	Tanks (Generic)	Industrial Features
126V	31	S	Tank	652599 305811	Tank, NR30	Tanks (Generic)	Industrial Features
127Y	31	SE	Works	652551 305617	Works, NR31	Unspecified Works Or Factories	Industrial Features
128V	32	S	Tank	652612 305813	Tank, NR30	Tanks (Generic)	Industrial Features
129W	33	NW	Tank	652044 306129	Tank, NR31	Tanks (Generic)	Industrial Features
130Z	33	N	Trinity Quay	652515 306411	Trinity Quay, NR30	Moorings and Unloading Facilities	Water
131X	34	S	Tank	652592 305806	Tank, NR30	Tanks (Generic)	Industrial Features
132	34	E	Electricity Sub Station	652676 306372	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
133X	35	S	Tank	652610 305810	Tank, NR30	Tanks (Generic)	Industrial Features
134X	35	S	Tank	652616 305811	Tank, NR30	Tanks (Generic)	Industrial Features
135A B	37	W	Tank	651803 305659	Tank, NR31	Tanks (Generic)	Industrial Features
136X	37	S	Tank	652599 305805	Tank, NR30	Tanks (Generic)	Industrial Features
137X	37	S	Tank	652594 305803	Tank, NR30	Tanks (Generic)	Industrial Features

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
138	37	W	Fine Line Communications	651811 305928	Fine Line Communications, Logic House, Harfreys Road, Great Yarmouth, NR31 0LS	Radar and Telecommunications Equipment	Industrial Products
139W	38	NW	Tank	652042 306134	Tank, NR31	Tanks (Generic)	Industrial Features
140	38	S	Electricity Sub Station	652793 305851	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
141A C	39	NW	Electricity Sub Station	652153 306184	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
142A E	41	W	Harfreys Industrial Estate	651806 305816	Harfreys Industrial Estate, NR31	Business Parks and Industrial Estates	Industrial Features
143Y	41	SE	Electricity Sub Station	652529 305593	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
144A A	41	S	Tank	652680 305822	Tank, NR30	Tanks (Generic)	Industrial Features
145X	42	S	Tank	652597 305799	Tank, NR30	Tanks (Generic)	Industrial Features
146Z	42	N	Travelling Crane	652520 306420	Travelling Crane, NR30	Travelling Cranes and Gantries	Industrial Features
147Z	45	N	Trinity House Depot	652542 306423	Trinity House Depot, NR30	Container and Storage	Transport, Storage and Delivery
148X	45	E	Tank	652600 305795	Tank, NR30	Tanks (Generic)	Industrial Features
149W	46	NW	Tank	652040 306142	Tank, NR31	Tanks (Generic)	Industrial Features
150	47	S	Eastern Monitoring Services	652498 305580	Eastern Monitoring Services, Malthouse Lane, Gorleston, Great Yarmouth, NR31 0GW	Electronic Equipment	Industrial Products
151	48	NW	Tank	651959 306104	Tank, NR31	Tanks (Generic)	Industrial Features
152A A	49	S	Works	652665 305810	Works, NR30	Unspecified Works Or Factories	Industrial Features
153	49	SE	Malthouse Quay	652589 305617	Malthouse Quay, NR31	Moorings and Unloading Facilities	Water
154A B	52	W	C A H Quickmix	651791 305685	C A H Quickmix, Morton Peto Road, Great Yarmouth, NR31 0LT	Concrete Products	Industrial Products
155	53	W	S S C S	651794 305786	S S C S, Harfreys Road, Great Yarmouth, NR31 0LS	Lifting and Handling Equipment	Industrial Products
156A C	55	NW	K S D Fabrication Ltd	652099 306177	K S D Fabrication Ltd, Yarmouth Business Park, Thamesfield Way, Great Yarmouth, NR31 0DN	Metals Manufacturers, Fabricators and Stockholders	Industrial Products
157A D	56	N	Tank	652560 306435	Tank, NR30	Tanks (Generic)	Industrial Features
158A G	57	NW	Works	652045 306156	Works, NR31	Unspecified Works Or Factories	Industrial Features
159A D	59	N	Tank	652560 306438	Tank, NR30	Tanks (Generic)	Industrial Features
160A D	61	N	E U	652597 306440	E U, 19, Southgates Road, Great Yarmouth, NR30 3LJ	Vehicle Parts and Accessories	Motoring

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161A D	61	N	Works	652585 306441	Works, NR30	Unspecified Works Or Factories	Industrial Features
162A D	62	N	Tank	652560 306441	Tank, NR30	Tanks (Generic)	Industrial Features
163AJ	63	E	Hardy Craske Fuels	652619 305765	Hardy Craske Fuels, Old Customs House Marine Base, Great Yarmouth, NR30 3LX	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden
164A E	63	W	Atam Group Ltd	651783 305837	Atam Group Ltd, Unit B, Harfreys Road, Great Yarmouth, NR31 0LS	Civil Engineers	Engineering Services
165	67	N	Electricity Sub Station	652293 306269	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
166A B	67	SW	Tank	651779 305633	Tank, NR31	Tanks (Generic)	Industrial Features
167A F	68	W	C & M Hydraulics	651779 305896	C & M Hydraulics, Da Vinci House, Harfreys Road, Great Yarmouth, NR31 0LS	Hydraulic Engineers	Engineering Services
168	72	E	P K M Sign Studios	652869 305873	P K M Sign Studios, 15, Swanston's Road, Great Yarmouth, NR30 3NQ	Signs	Industrial Products
169A G	73	NW	Conveyor	652047 306175	Conveyor, NR31	Conveyors	Industrial Features
170A H	77	E	Tank	652635 305731	Tank, NR30	Tanks (Generic)	Industrial Features
171	79	NW	Mast	652096 306202	Mast, NR31	Telecommunications Features	Infrastructure and Facilities
172A H	80	E	Tank	652638 305733	Tank, NR30	Tanks (Generic)	Industrial Features
173	81	N	Warehouse	652408 306312	Warehouse, NR31	Container and Storage	Transport, Storage and Delivery
174A H	82	E	Tank	652639 305748	Tank, NR30	Tanks (Generic)	Industrial Features
175A H	84	E	Tank	652641 305745	Tank, NR30	Tanks (Generic)	Industrial Features
176A H	84	E	Tank	652642 305735	Tank, NR30	Tanks (Generic)	Industrial Features
177A H	86	E	Tank	652643 305741	Tank, NR30	Tanks (Generic)	Industrial Features
178AI	86	E	Wing Mirrors World	652881 305918	Wing Mirrors World, Unit 9, Swanston's Road, Great Yarmouth, NR30 3NQ	Vehicle Parts and Accessories	Motoring
179AI	86	E	Spray N Go	652881 305918	Spray N Go, Unit 9, Swanston's Road, Great Yarmouth, NR30 3NQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
180A H	87	E	Tank	652645 305737	Tank, NR30	Tanks (Generic)	Industrial Features
181A H	89	E	Tank	652647 305721	Tank, NR30	Tanks (Generic)	Industrial Features
182A R	91	SE	Works	652873 305837	Works, NR30	Unspecified Works Or Factories	Industrial Features
183	96	N	Ballast Quay	652513 306474	Ballast Quay, NR30	Moorings and Unloading Facilities	Water
184A H	97	E	Tank	652656 305707	Tank, NR30	Tanks (Generic)	Industrial Features

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185AJ	99	S	Works	652674 305761	Works, NR30	Unspecified Works Or Factories	Industrial Features
186AK	99	E	Tank	652659 305683	Tank, NR30	Tanks (Generic)	Industrial Features
187AK	102	E	Tank	652662 305688	Tank, NR30	Tanks (Generic)	Industrial Features
188AO	103	SW	J W Munnings Ltd	651759 305598	J W Munnings Ltd, 1 Munnings Court, Harfreys Road, Great Yarmouth, NR31 0LS	Construction and Tool Hire	Hire Services
189	104	E	Electricity Sub Station	652859 306156	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
190	107	N	Simmons Edeco Europe Ltd	651821 306118	Simmons Edeco Europe Ltd, Bessemer Way, Great Yarmouth, NR31 0LX	Special Purpose Machinery and Equipment	Industrial Products
191AK	107	E	Warehouse	652668 305668	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
192AK	109	E	Tank	652669 305675	Tank, NR30	Tanks (Generic)	Industrial Features
193	109	S	Gorleston Fire Station	652491 305518	Gorleston Fire Station, Fire Station, High Road, Gorleston, Great Yarmouth, NR31 0PJ	Fire Brigade Stations	Central and Local Government
194AM	109	W	S P P Digital	651738 305773	S P P Digital, Morton Peto Road, Great Yarmouth, NR31 0LT	Published Goods	Industrial Products
195AT	112	S	Nelson Works	652803 305778	Nelson Works, NR30	Unspecified Works Or Factories	Industrial Features
196AK	112	E	Tank	652672 305678	Tank, NR30	Tanks (Generic)	Industrial Features
197AK	112	E	Tank	652672 305688	Tank, NR30	Tanks (Generic)	Industrial Features
198AL	113	W	Maverick Engineering Ltd	651732 305857	Maverick Engineering Ltd, 9-11, Brinell Way, Great Yarmouth, NR31 0LU	Industrial Engineers	Engineering Services
199AL	113	W	L V Shipping Ltd	651732 305857	L V Shipping Ltd, 9-11, Brinell Way, Great Yarmouth, NR31 0LU	Distribution and Haulage	Transport, Storage and Delivery
200AL	113	W	East Coast Pipe	651732 305867	East Coast Pipe, Unit 8, Brinell Way, Great Yarmouth, NR31 0LU	Electrical Equipment Repair and Servicing	Repair and Servicing
201AM	114	W	Survitec Survival Craft	651732 305747	Survitec Survival Craft, Unit 16, Brinell Way, Great Yarmouth, NR31 0LU	Marine Engineers and Services	Engineering Services
202	114	W	Softstart UK	651732 305803	Softstart UK, 14, Brinell Way, Great Yarmouth, NR31 0LU	Electrical Equipment Repair and Servicing	Repair and Servicing
203AK	116	E	Tank	652676 305681	Tank, NR30	Tanks (Generic)	Industrial Features
204	116	N	Electricity Sub Station	652172 306284	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
205AN	118	W	Enterprise Rent-A-Car	651731 305910	Enterprise Rent-A-Car, Units 4-5, Brinell Way, Great Yarmouth, NR31 0LU	Vehicle Hire and Rental	Hire Services
206AK	118	E	Tank	652678 305677	Tank, NR30	Tanks (Generic)	Industrial Features

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207A U	118	SE	Works	652869 305796	Works, NR30	Unspecified Works Or Factories	Industrial Features
208A N	118	W	Applus R T D	651730 305932	Applus R T D, 1-2, Brinell Way, Great Yarmouth, NR31 0LU	Industrial Engineers	Engineering Services
209A N	119	W	Stuga	651730 305911	Stuga, Unit 4, Brinell Way, Great Yarmouth, NR31 0LU	Tools Including Machine Shops	Industrial Products
210A O	120	SW	Hubble	651739 305598	Hubble, 2 Munnings Court, Harfreys Road, Great Yarmouth, NR31 0LS	General Construction Supplies	Industrial Products
211A S	121	S	Regional Scaffolding	652729 305752	Regional Scaffolding, Canada Buildings, South Denes Road, Great Yarmouth, NR30 3PF	Construction and Tool Hire	Hire Services
212A P	122	N	Electricity Sub Station	652667 306502	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
213A P	123	N	Electricity Sub Station	652667 306503	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
214A Q	125	NW	Barford Hire Ltd	652068 306240	Barford Hire Ltd, Yarmouth Business Park, Suffolk Road, Great Yarmouth, NR31 0ER	Vehicle Hire and Rental	Hire Services
215A Q	125	NW	Pat's Floorings	652068 306240	Pat's Floorings, Yarmouth Business Park, Thamesfield Way, Great Yarmouth, NR31 0DN	Construction Completion Services	Construction Services
216A V	127	N	Works	652551 306505	Works, NR30	Unspecified Works Or Factories	Industrial Features
217	127	NW	Survitec Group	651930 306180	Survitec Group, Unit 8, Owen Road, Great Yarmouth, NR31 0NA	Workwear	Industrial Products
218A O	128	SW	M D F Transport Ltd	651729 305597	M D F Transport Ltd, 3 Munnings Court, Harfreys Road, Great Yarmouth, NR31 0LS	Distribution and Haulage	Transport, Storage and Delivery
219	128	W	Electricity Sub Station	652391 306411	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
220A R	129	E	Pinstripe Distribution Ltd	652925 305861	Pinstripe Distribution Ltd, Midas Building, Swanston's Road, Great Yarmouth, NR30 3NQ	Distribution and Haulage	Transport, Storage and Delivery
221	129	E	Gold Cockerel Books	652925 305861	Gold Cockerel Books, Midas Building, Swanston's Road, Great Yarmouth, NR30 3NQ	Published Goods	Industrial Products
222	130	N	Works	652610 306511	Works, NR30	Unspecified Works Or Factories	Industrial Features
223A S	130	S	A B Trade Supplies	652734 305743	A B Trade Supplies, Canada Building, South Denes Road, Great Yarmouth, NR30 3PF	General Construction Supplies	Industrial Products
224B A	132	E	Electricity Sub Station	652691 305634	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
225A T	132	S	Hy-tek Engineering Services Ltd	652821 305760	Hy-tek Engineering Services Ltd, 3, Main Cross Road, Great Yarmouth, NR30 3PD	Precision Engineers	Engineering Services

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226A T	132	S	Toucam Engineers Ltd	652821 305760	Toucam Engineers Ltd, 3, Main Cross Road, Great Yarmouth, NR30 3PD	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden
227A S	136	S	Displaypro	652764 305744	Displaypro, Display House, Main Cross Road, Great Yarmouth, NR30 3NZ	Office and Shop Equipment	Industrial Products
228A U	140	SE	Depot	652909 305803	Depot, NR30	Container and Storage	Transport, Storage and Delivery
229A T	141	S	Works	652826 305753	Works, NR30	Unspecified Works Or Factories	Industrial Features
230B E	142	SE	Crane	652620 305528	Crane, NR31	Travelling Cranes and Gentries	Industrial Features
231A V	144	N	Warehouse	652532 306522	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
232A V	146	N	S T M Rewinds Ltd	652536 306524	S T M Rewinds Ltd, A B C Wharf, Southgates Road, Great Yarmouth, NR30 3LQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
233	148	NW	Tank	651721 306097	Tank, NR31	Tanks (Generic)	Industrial Features
234B B	153	SE	Warehouse	652881 305762	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
235A X	153	SE	Tank	652701 305595	Tank, NR30	Tanks (Generic)	Industrial Features
236A W	155	S	Depot	652777 305728	Depot, NR30	Container and Storage	Transport, Storage and Delivery
237	156	NW	Subsea Protection Systems	652383 306461	Subsea Protection Systems, Holmes Wharf 225, Southtown Road, Great Yarmouth, NR31 0JJ	Concrete Products	Industrial Products
238A W	156	S	Warehouse	652748 305720	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
239A X	156	SE	Tank	652705 305597	Tank, NR30	Tanks (Generic)	Industrial Features
240A Y	157	NW	Survival-one	651919 306209	Survival-one, Performance House Unit 6-7, Owen Road, Great Yarmouth, NR31 0NA	Special Purpose Machinery and Equipment	Industrial Products
241A U	157	SE	Nelson Works	652901 305772	Nelson Works, NR30	Unspecified Works Or Factories	Industrial Features
242A Y	157	NW	P V S Holdings	651919 306209	P V S Holdings, Unit 6 & 7 Owen Road, Great Yarmouth, NR31 0NA	Garden Goods	Consumer Products
243A Z	158	SE	Micro Engineering Ltd	652939 305818	Micro Engineering Ltd, Battery Road, Great Yarmouth, NR30 3NN	Precision Engineers	Engineering Services
244A Z	158	SE	B W Refrigeration & Air Conditioning Ltd	652939 305818	B W Refrigeration & Air Conditioning Ltd, Battery Road, Great Yarmouth, NR30 3NN	Construction Completion Services	Construction Services
245A X	159	SE	Tank	652706 305593	Tank, NR30	Tanks (Generic)	Industrial Features
246A X	159	SE	Tank	652703 305586	Tank, NR30	Tanks (Generic)	Industrial Features
247A X	160	E	Tank	652709 305598	Tank, NR30	Tanks (Generic)	Industrial Features



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248A X	162	SE	Tank	652707 305588	Tank, NR30	Tanks (Generic)	Industrial Features
249A X	162	SE	Tank	652704 305582	Tank, NR30	Tanks (Generic)	Industrial Features
250B A	162	E	D P Services & Supplies Ltd	652720 305626	D P Services & Supplies Ltd, Ferry House, South Denes Road, Great Yarmouth, NR30 3PJ	Container and Storage	Transport, Storage and Delivery
251B A	162	E	Ebrex UK Ltd	652720 305626	Ebrex UK Ltd, Ferry House, South Denes Road, Great Yarmouth, NR30 3PJ	Distribution and Haulage	Transport, Storage and Delivery
252	163	SE	Great Yarmouth	652608 305498	Great Yarmouth, A1243 South Denes Road And Riverside Road, Barrack Estate, NR31	Ferries and Ferry Terminals	Water
253A X	163	SE	Tank	652711 305594	Tank, NR30	Tanks (Generic)	Industrial Features
254	163	SW	East Coast Insulations Ltd	651695 305587	East Coast Insulations Ltd, Munnings Court, Harfreys Road, Great Yarmouth, NR31 0LS	Recycling, Reclamation and Disposal	Recycling Services
255A X	165	SE	Tank	652709 305584	Tank, NR30	Tanks (Generic)	Industrial Features
256A X	165	SE	Tank	652706 305578	Tank, NR30	Tanks (Generic)	Industrial Features
257A X	165	SE	Tank	652712 305590	Tank, NR30	Tanks (Generic)	Industrial Features
258A X	168	SE	Tank	652712 305585	Tank, NR30	Tanks (Generic)	Industrial Features
259BF	168	W	D N V GL	651679 305750	D N V GL, Cooke House, Morton Peto Road, Great Yarmouth, NR31 0LT	Marine Engineers and Services	Engineering Services
260A X	168	SE	Tank	652707 305575	Tank, NR30	Tanks (Generic)	Industrial Features
261A X	168	SE	Tank	652710 305580	Tank, NR30	Tanks (Generic)	Industrial Features
262A X	170	SE	Tank	652707 305570	Tank, NR30	Tanks (Generic)	Industrial Features
263A X	171	SE	Tank	652714 305581	Tank, NR30	Tanks (Generic)	Industrial Features
264A X	171	SE	Tank	652711 305575	Tank, NR30	Tanks (Generic)	Industrial Features
265	172	S	Advanced Machinery Relocations Ltd	652217 305508	Advanced Machinery Relocations Ltd, 18, Suffolk Road, Gorleston, Great Yarmouth, NR31 0QB	Construction Completion Services	Construction Services
266B B	173	SE	Equipment Supply Co G Y Ltd	652911 305759	Equipment Supply Co G Y Ltd, Nelson Works, Main Cross Road, Great Yarmouth, NR30 3NZ	General Construction Supplies	Industrial Products
267A X	173	SE	Tank	652711 305572	Tank, NR30	Tanks (Generic)	Industrial Features
268B C	174	SE	Tank	652709 305566	Tank, NR30	Tanks (Generic)	Industrial Features
269B C	174	SE	Tank	652715 305576	Tank, NR30	Tanks (Generic)	Industrial Features

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270BD	175	N	Warehouse	652533 306553	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
271AX	175	E	Factory	652727 305602	Factory, NR30	Unspecified Works Or Factories	Industrial Features
272BD	175	N	Abc Wharf	652508 306553	Abc Wharf, NR30	Moorings and Unloading Facilities	Water
273BG	175	N	Works	652643 306558	Works, NR30	Unspecified Works Or Factories	Industrial Features
274BE	176	SE	Landing Stage	652643 305502	Landing Stage, NR31	Moorings and Unloading Facilities	Water
275BC	176	SE	Tank	652712 305567	Tank, NR30	Tanks (Generic)	Industrial Features
276AX	177	SE	Tank	652716 305573	Tank, NR30	Tanks (Generic)	Industrial Features
277BC	177	SE	Tank	652710 305562	Tank, NR30	Tanks (Generic)	Industrial Features
278BC	179	SE	Tank	652713 305564	Tank, NR30	Tanks (Generic)	Industrial Features
279BC	179	SE	Tank	652710 305558	Tank, NR30	Tanks (Generic)	Industrial Features
280BH	179	SE	Warehouse	652945 305786	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
281AX	179	SE	Tank	652717 305569	Tank, NR30	Tanks (Generic)	Industrial Features
282BC	181	SE	Tank	652717 305565	Tank, NR30	Tanks (Generic)	Industrial Features
283AW	185	S	Electricity Sub Station	652814 305705	Electricity Sub Station, NR30	Electrical Features	Infrastructure and Facilities
284BF	185	W	S M S Auto Care Ltd	651661 305738	S M S Auto Care Ltd, Unit 2 Cooke House, Morton Peto Road, Great Yarmouth, NR31 0LT	Vehicle Repair, Testing and Servicing	Repair and Servicing
285	186	NW	C & L Waste Oil Collection Ltd	652057 306302	C & L Waste Oil Collection Ltd, Yarmouth Business Park, Thamesfield Way, Great Yarmouth, NR31 0DN	Recycling, Reclamation and Disposal	Recycling Services
286BG	187	N	J R Pitchers Ltd	652606 306568	J R Pitchers Ltd, 5, Selby Place, Great Yarmouth, NR30 3LG	Vehicle Repair, Testing and Servicing	Repair and Servicing
287BK	195	NW	Tube Care Inspection Ltd	651736 306176	Tube Care Inspection Ltd, Bessemer Way, Great Yarmouth, NR31 0LX	General Construction Supplies	Industrial Products
288AZ	197	E	Kingsway Tyres	652982 305819	Kingsway Tyres, Battery Road, Great Yarmouth, NR30 3NN	Vehicle Parts and Accessories	Motoring
289BI	197	E	Shopkit	652995 305867	Shopkit, Unit 1-3, Swanston's Road, Great Yarmouth, NR30 3NQ	Precision Engineers	Engineering Services
290BH	198	SE	Warehouse	652975 305799	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
291BI	198	E	Depot	652996 305861	Depot, NR30	Container and Storage	Transport, Storage and Delivery
292BG	199	N	Queen's Road Business Centre	652671 306579	Queen's Road Business Centre, NR30	Business Parks and Industrial Estates	Industrial Features

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293BL	208	SE	Quay	652707 305509	Quay, NR30	Moorings and Unloading Facilities	Water
294BO	211	S	Depot	652877 305695	Depot, NR30	Container and Storage	Transport, Storage and Delivery
295BH	212	SE	Warehouse	652980 305780	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
296BJ	213	N	Works	652628 306595	Works, NR30	Unspecified Works Or Factories	Industrial Features
297BJ	215	N	Pertwee & Back Ltd - Ford	652585 306594	Pertwee & Back Ltd - Ford, Southgates Road, Great Yarmouth, NR30 3LF	Vehicle Repair, Testing and Servicing	Repair and Servicing
298	216	SE	Kirklands Ltd	652942 305730	Kirklands Ltd, Kirklands House, Main Cross Road, Great Yarmouth, NR30 3NZ	Workwear	Industrial Products
299	216	S	Electricity Sub Station	652504 305411	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
300BK	218	NW	Electricity Sub Station	651684 306162	Electricity Sub Station, NR31	Electrical Features	Infrastructure and Facilities
301	220	SE	Carl J Harrison Piano Services	652601 305428	Carl J Harrison Piano Services, 3, Ferry Hill, Gorleston, Great Yarmouth, NR31 0PD	Sports and Leisure Equipment Repair	Repair and Servicing
302BL	221	SE	Depot	652736 305522	Depot, NR30	Container and Storage	Transport, Storage and Delivery
303BM	225	N	Warehouse	652525 306603	Warehouse, NR30	Container and Storage	Transport, Storage and Delivery
304BN	228	W	D T S Solutions	651619 305949	D T S Solutions, Unit 17, Bessemer Way, Great Yarmouth, NR31 0LX	Radar and Telecommunications Equipment	Industrial Products
305BM	228	N	Wharf	652498 306605	Wharf, NR30	Moorings and Unloading Facilities	Water
306BN	228	W	Engraphics Ltd	651619 305939	Engraphics Ltd, Unit 16, Bessemer Way, Great Yarmouth, NR31 0LX	Signs	Industrial Products
307BN	230	W	Smart Buy Tools	651619 305928	Smart Buy Tools, Unit 15, Bessemer Way, Great Yarmouth, NR31 0LX	Tools Including Machine Shops	Industrial Products
308	230	N	Great Yarmouth Coach Works	652677 306610	Great Yarmouth Coach Works, 15, Queens Road, Great Yarmouth, NR30 3HT	New Vehicles	Motoring
309BO	232	SE	C & C Sheds & Timber	652931 305700	C & C Sheds & Timber, Suffling Road, Great Yarmouth, NR30 3QP	Garden Goods	Consumer Products
310BM	233	N	Works	652544 306611	Works, NR30	Unspecified Works Or Factories	Industrial Features
311BP	233	W	Securicom Services	651612 305834	Securicom Services, Unit 6, Bessemer Way, Great Yarmouth, NR31 0LX	Electronic Equipment	Industrial Products
312BP	233	W	Id Asbestos Ltd	651612 305834	Id Asbestos Ltd, Unit 6, Bessemer Way, Great Yarmouth, NR31 0LX	Recycling, Reclamation and Disposal	Recycling Services
313BQ	235	SE	Lacons Brewery	653011 305789	Lacons Brewery, The Courtyard, Main Cross Road, Great Yarmouth, NR30 3NZ	Alcoholic Drinks	Foodstuffs

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314	235	NW	B L I Technologies Ltd	651991 306327	B L I Technologies Ltd, Northland Energy Services UK Limited Yarmouth Business Park, Suffolk Road, Great Yarmouth, NR31 0ER	Distribution and Haulage	Transport, Storage and Delivery
315	236	W	Scantech Offshore	651605 305692	Scantech Offshore, Scantech House, Morton Peto Road, Great Yarmouth, NR31 0LT	Special Purpose Machinery and Equipment	Industrial Products
316	237	E	Yarmouth Rewinds	653027 305826	Yarmouth Rewinds, Swanston's Road, Great Yarmouth, NR30 3NQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
317	241	N	Hopper	651835 306254	Hopper, NR31	Hoppers and Silos	Farming
318	242	N	Nelson Garage	652574 306621	Nelson Garage, Southgates Road, Great Yarmouth, NR30 3LF	Vehicle Repair, Testing and Servicing	Repair and Servicing
319BL	246	SE	Depot	652739 305488	Depot, NR30	Container and Storage	Transport, Storage and Delivery
320	247	SE	Depot	652942 305689	Depot, NR30	Container and Storage	Transport, Storage and Delivery

## 4.2 Petrol and Fuel Sites

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

3

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
321	0	On Site	652574 306370	BP	South Quay Service Station, Southgates Road, Southgates Road, Trinity Square, Great Yarmouth, Norfolk, NR30 3LL	No	Open
322A	0	On Site	652377 306137	BP	Southtown Service Station, 126, Southtown Road, Southtown Road, Great Yarmouth, Norfolk, NR31 0JZ	No	Open
323B Q	314	SE	653075 305741	Obsolete	South Beach Service Station, South Beach Parade, South Beach Parade, Great Yarmouth, Norfolk, NR30 3QN	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-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
MGR-ARTDP	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
NRD-XSV	NORTH DENES FORMATION	SAND AND GRAVEL
BRYD-P	BREYDON FORMATION	PEAT
BRYD-XCZ	BREYDON FORMATION	CLAY AND SILT
BRYD-XCZ	BREYDON FORMATION	CLAY AND SILT
TRD-XCZ	TIDAL RIVER OR CREEK DEPOSITS	CLAY AND SILT
HPGL-S	HAPPISBURGH GLACIGENIC FORMATION	SAND
BSA-S	BLOWN SAND	SAND

### 5.3 Bedrock and Solid Geology

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

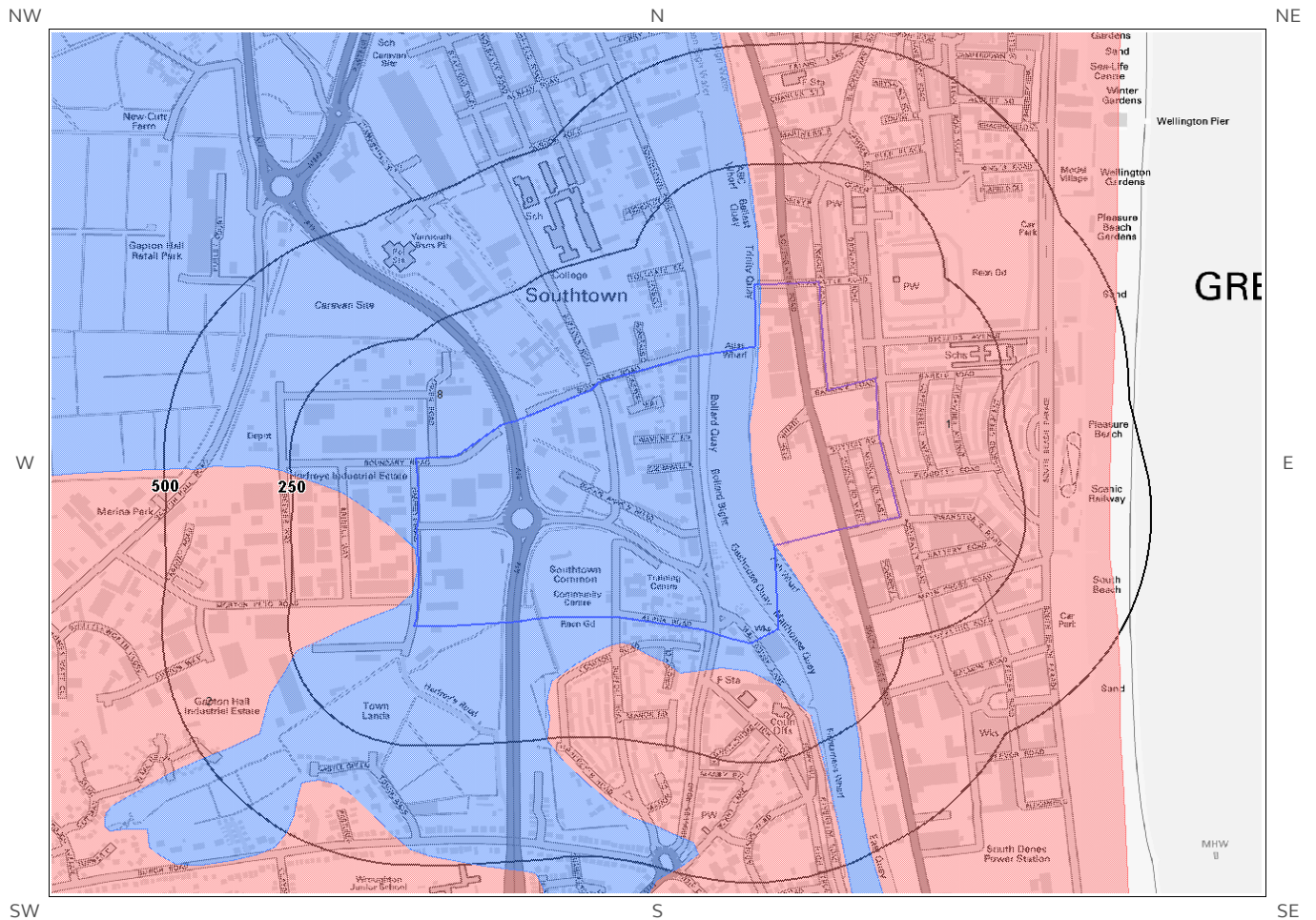
Lex Code	Description	Rock Type
CRAg-XSV	CRAg GROUP	SAND AND GRAVEL

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

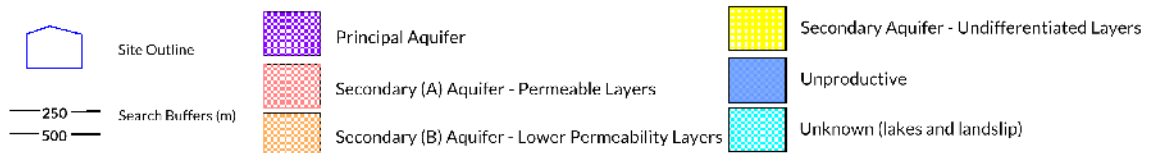


# 6 Hydrogeology and Hydrology

## 6a. Aquifer Within Superficial Geology



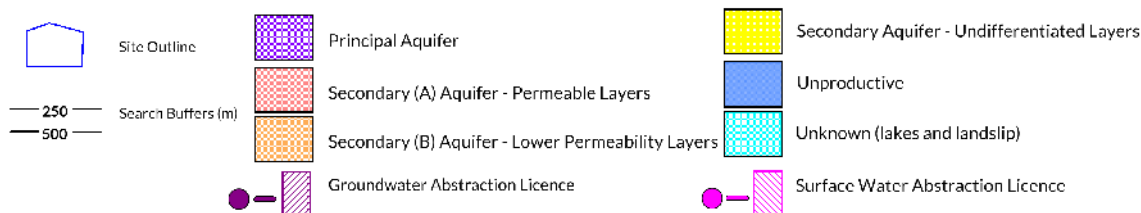
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# 6b. Aquifer Within Bedrock Geology and Abstraction Licenses

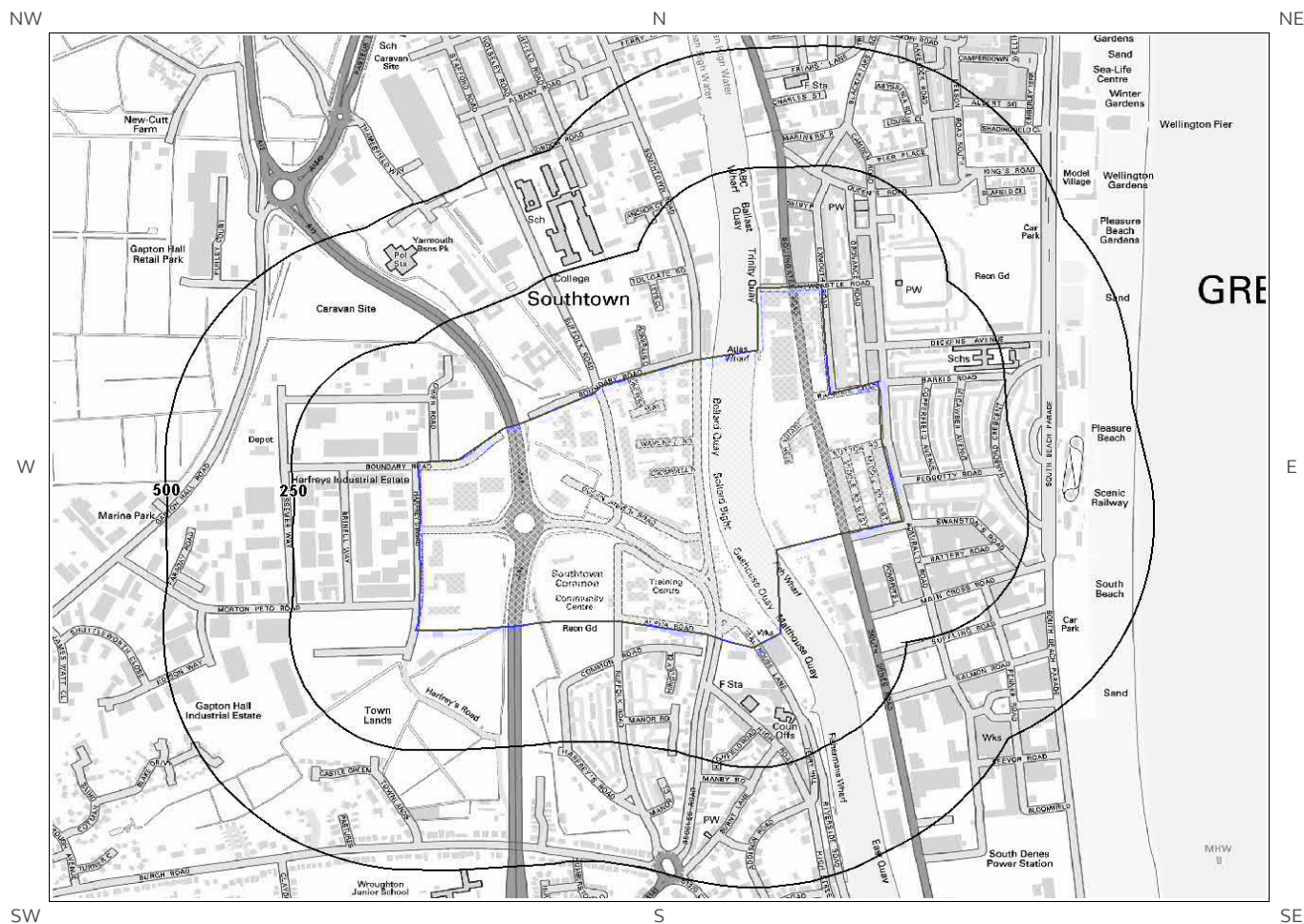


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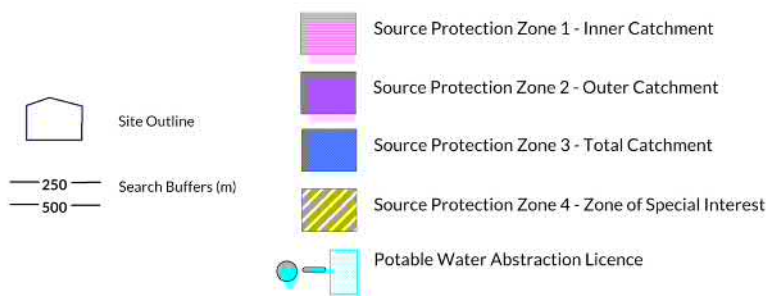




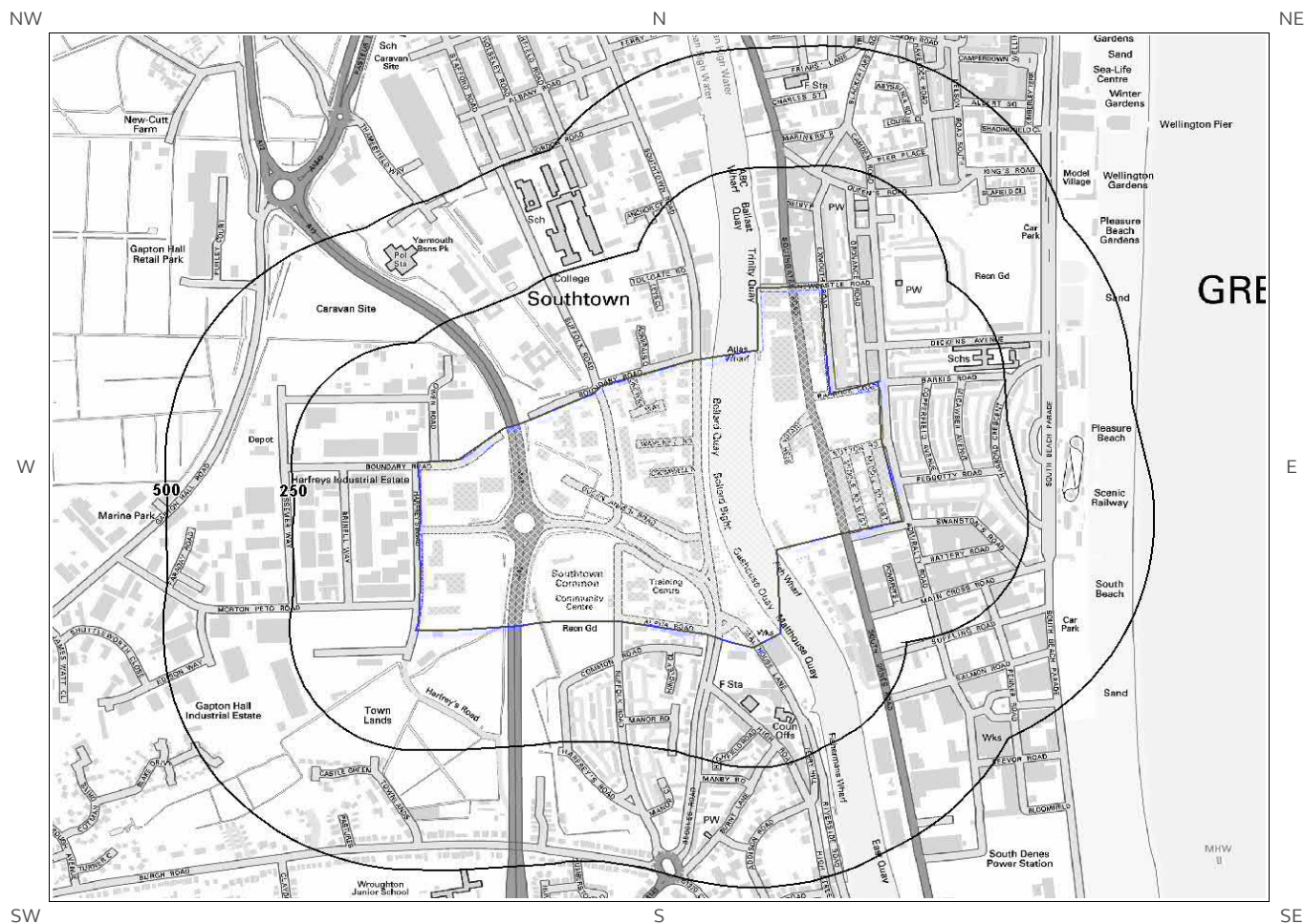
# 6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



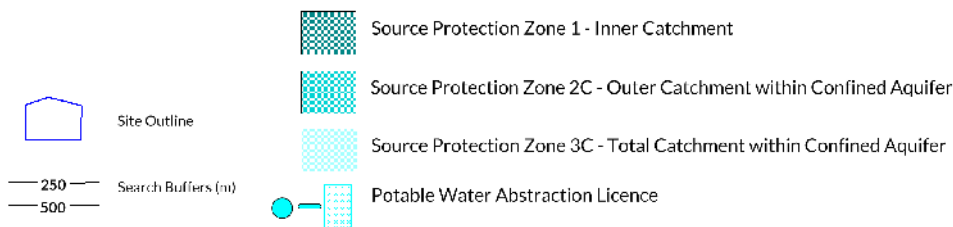
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# 6d. Hydrogeology – Source Protection Zones within confined aquifer

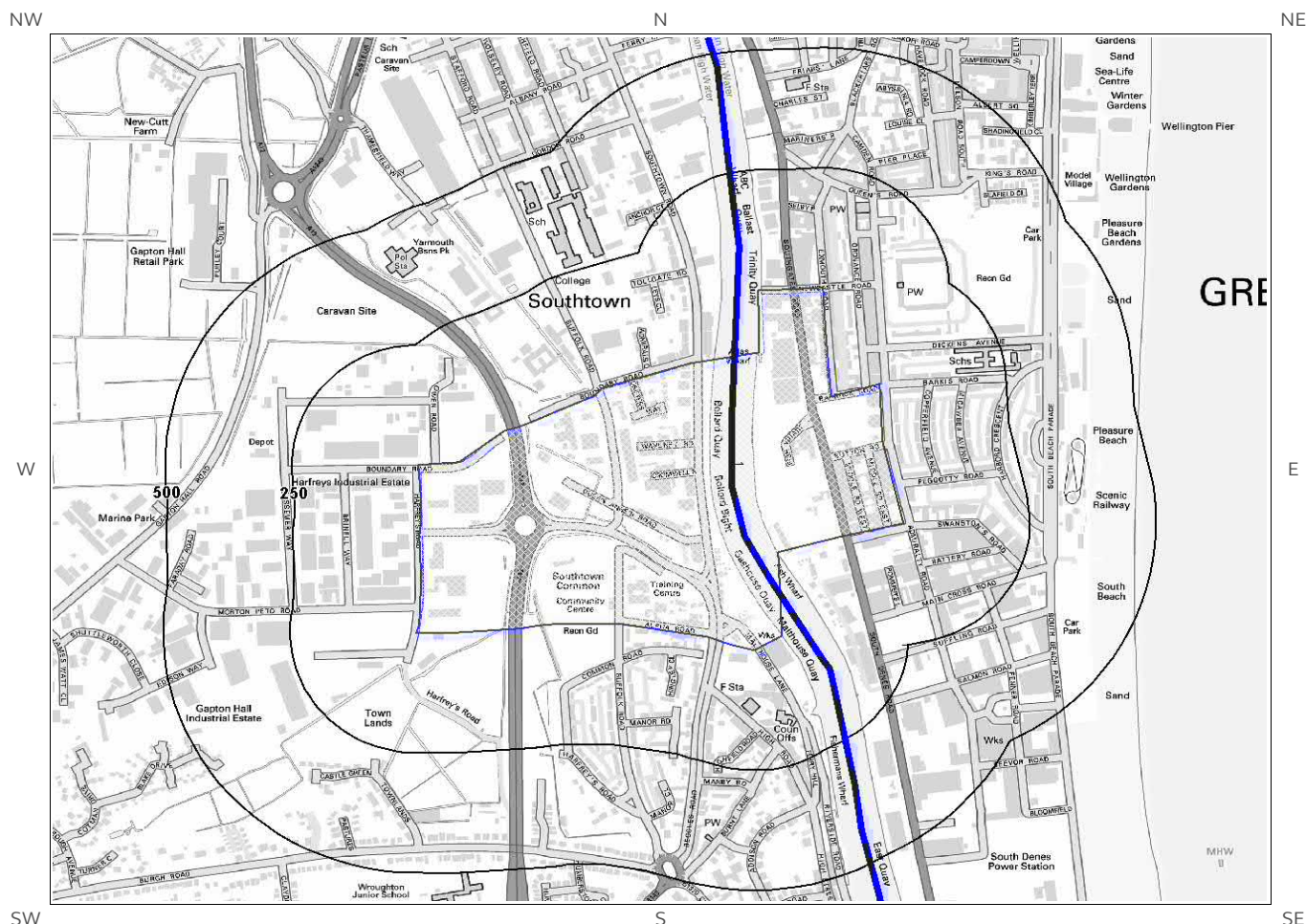


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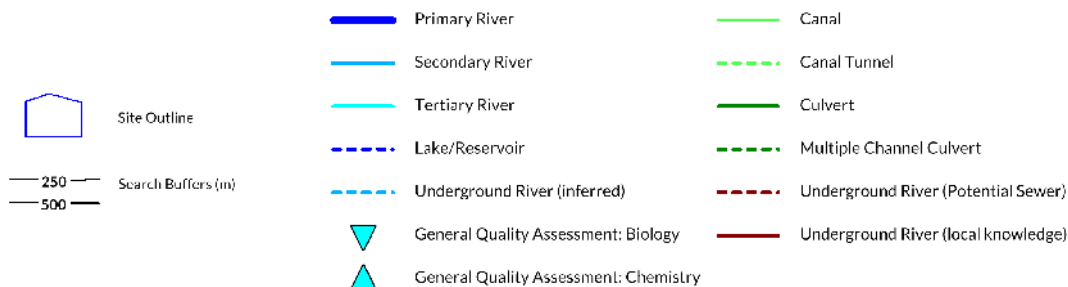




# 6e. Hydrology – Detailed River Network and River Quality



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# 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/Natural Resources Wales'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 Enviro Insight User Guide.

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

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	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
8	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	3	W	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

## 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/Natural Resources Wales'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 Enviro Insight 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



## 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
3	71	N	651820 306080	Status: Active Licence No: AN/034/0015/020 Details: Laundry Use Direct Source: Ground Water Source Of Supply Point: Wellpoints At The Laundry, Portland Lane, Great Yarmouth Data Type: Point Name: Camplings Limited Annual Volume (m³): 60000 Max Daily Volume (m³): 210 Original Application No: NPS/WR/024446 Original Start Date: 1/12/2016 Expiry Date: 31/3/2030 Issue No: 1 Version Start Date: 1/12/2016 Version End Date:
Not shown	1187	NE	653140 307460	Status: Historical Licence No: 7/34/15/*G/0220 Details: Make-Up or Top Up Water Direct Source: Ground Water Source Of Supply Point: Wellpoint At Gt Yarmouth Data Type: Point Name: B & M LEISURE Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 1/3/1997 Expiry Date: - Issue No: 100 Version Start Date: 1/3/1997 Version End Date:

## 6.4 Surface Water Abstraction Licences

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

Yes

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

ID	Distance (m)	Direction	NGR	Details
5	443	N	652372 306914	Status: Historical Licence No: AN/034/0015/013 Details: Hydraulic Testing Direct Source: Surface Water Source Of Supply Point: River Yare At Berth 28, Great Yarmouth Data Type: Line Name: INTERSERVE CONSTRUCTION LIMITED Annual Volume (m³): 4000 Max Daily Volume (m³): 100 Application No: NPS/WR/014706 Original Start Date: 16/12/2013 Expiry Date: 31/3/2015 Issue No: 1 Version Start Date: 16/12/2013 Version End Date:

## 6.5 Potable Water Abstraction Licences

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

No

Database searched and no data found.

## 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/Natural Resources Wales 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.
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.
487	W	Major Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

## 6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?

No

Database searched and no data found.

---

#### 6.9.2 Chemical Quality:

Database searched and no data found.

---

### 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	0	On Site	River Name: River Yare Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined

---

## 6.11 Surface Water Features

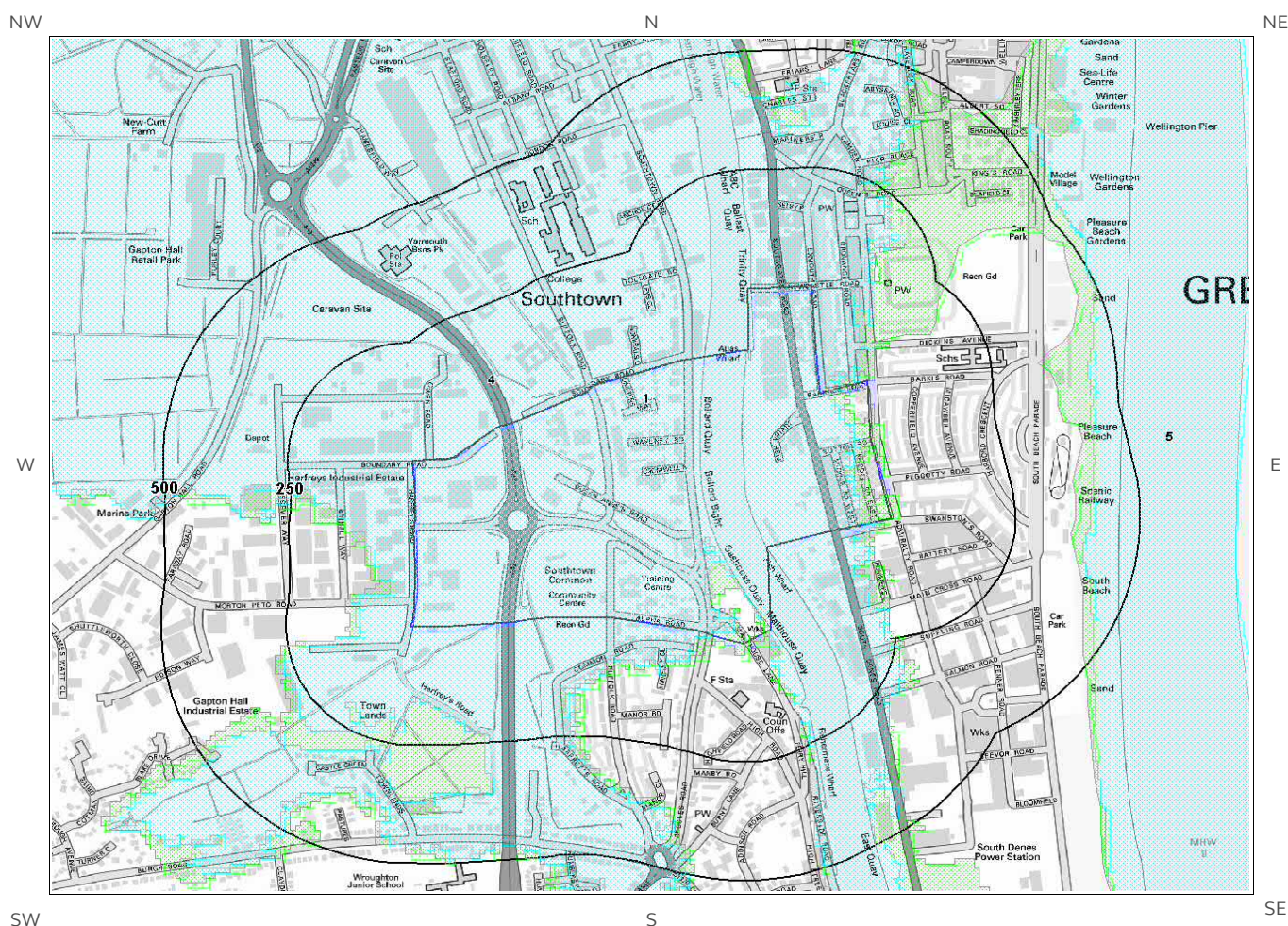
Are there any surface water features within 250m of the study site?

Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
0	On Site
0	On Site
0	On Site
0	On Site
0	On Site
0	On Site
0	On Site
0	On Site
17	NW
25	NW
29	N
37	NW
52	NW
74	SW
105	NW
118	S
143	S
158	NW
176	S

# 7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)

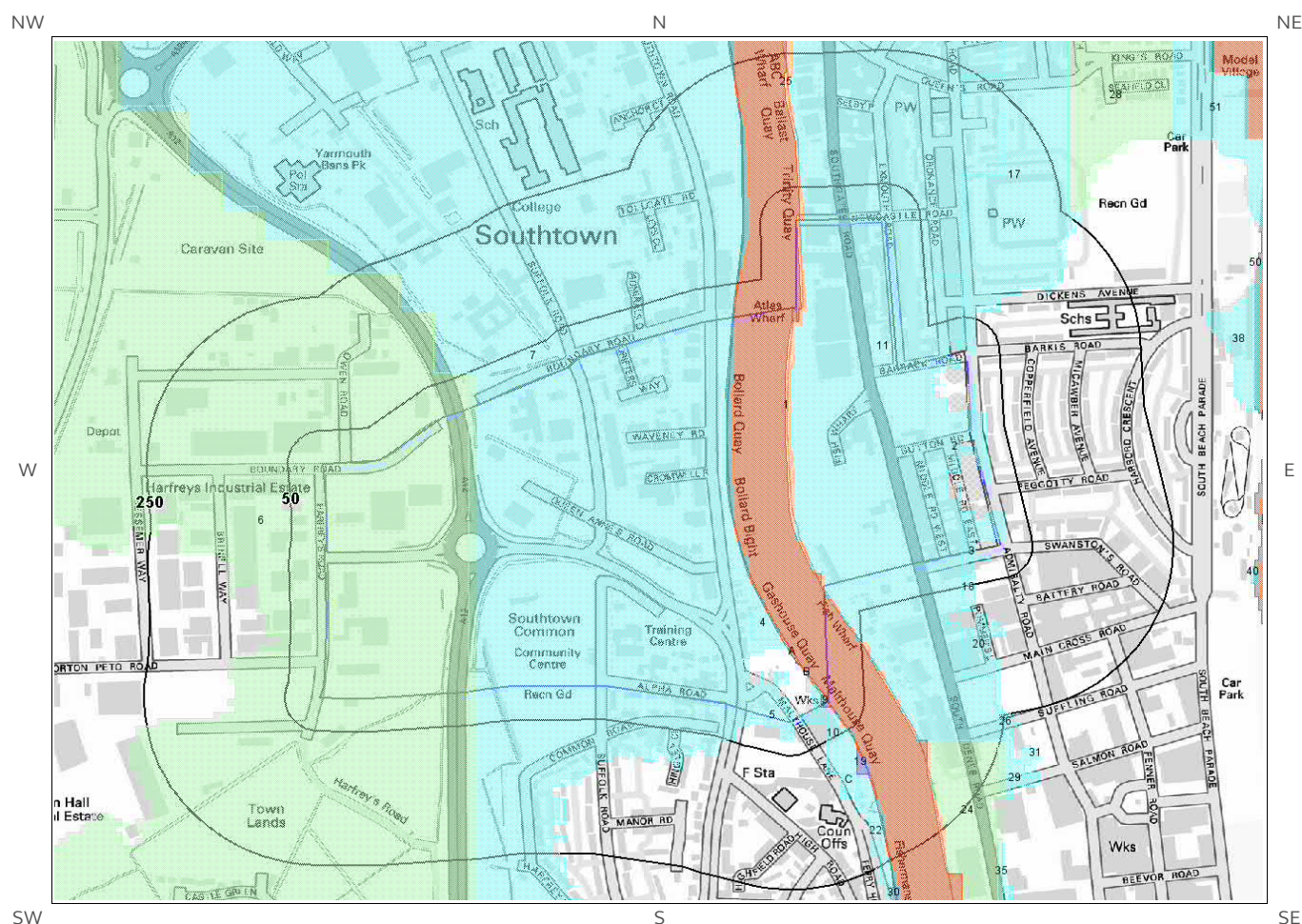


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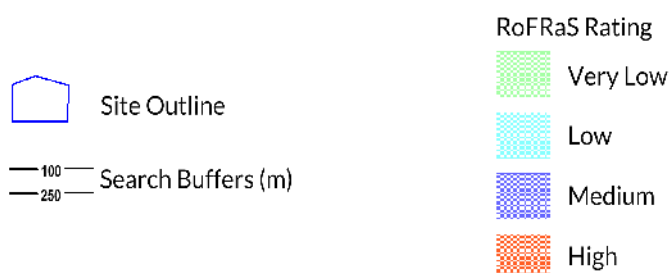




# 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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# 7 Flooding

## 7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? **Yes**

Environment Agency/Natural Resources Wales 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	19-Jun-2017	Zone 2 - (Fluvial /Tidal Models)

## 7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales 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	0	On Site	19-Jun-2017	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? **High**

The Environment Agency/Natural Resources Wales 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 High (1 in 30 or greater) 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	0.0	On Site	Low

3	0.0	On Site	Low
4	0.0	On Site	Low
5	0.0	On Site	Low
6	0.0	On Site	Very Low
7	0.0	On Site	Low
8B	0.0	On Site	Low
9	0.0	On Site	Medium
10	0.0	On Site	Low
11	0.0	On Site	Low
12A	0.0	On Site	Medium
13A	0.0	On Site	Medium
14B	0.0	On Site	Medium
15B	0.0	On Site	Medium
16	0.0	On Site	High
17	5.0	E	Low
18	30.0	S	Low

## 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?

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

---

## 7.8 Groundwater Flooding Confidence Areas

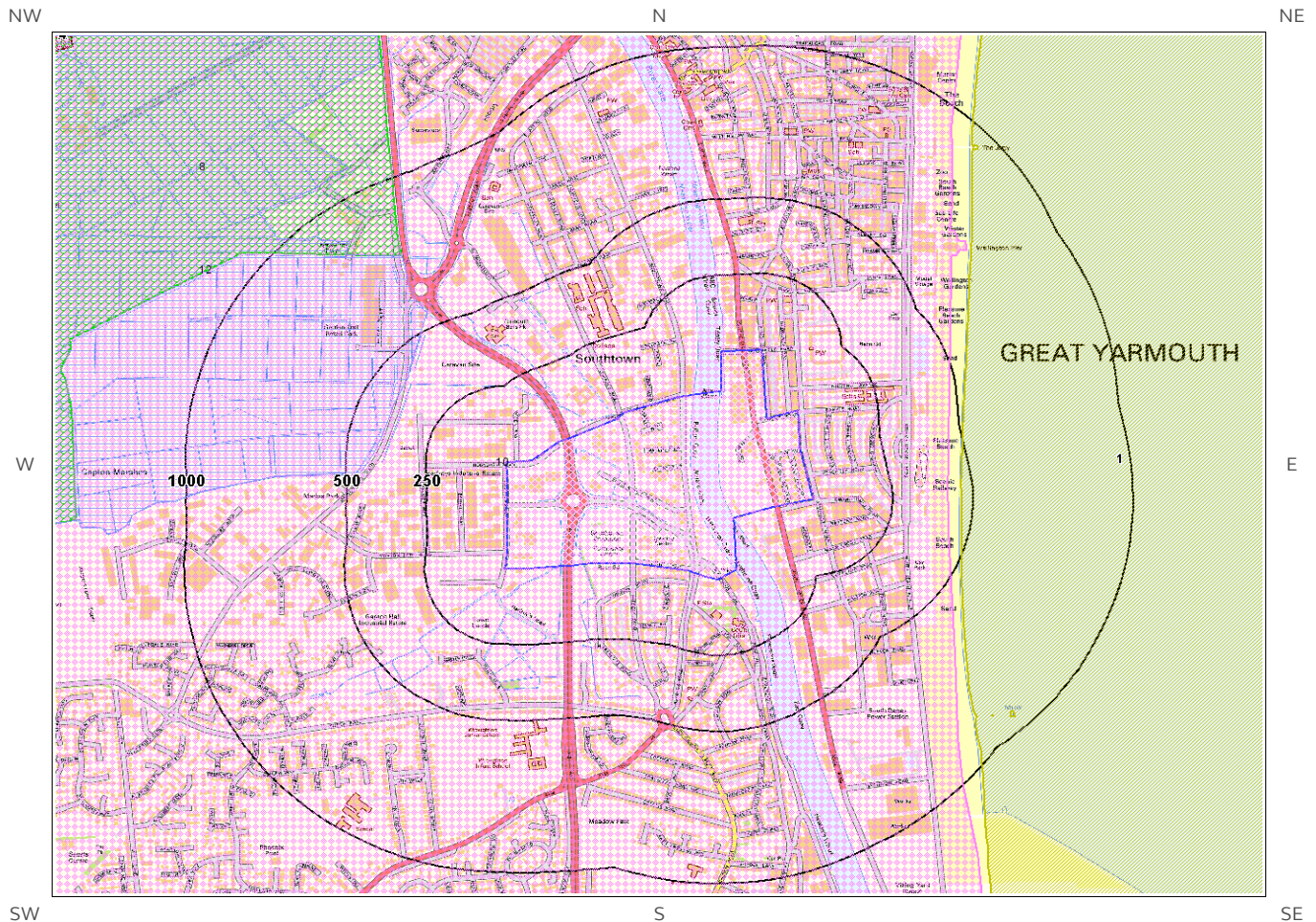
What is the British Geological Survey confidence rating in this result?

Low

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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# 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:

3

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
Not shown	1794	NW	Breydon Water	Natural England
4	1848	NW	Breydon Water	Natural England
Not shown	1949	NW	Breydon Water	Natural England

## 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:

2

The following Special Protection Area (SPA) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SPA Name	Data Source
1	465	E	Outer Thames Estuary	Natural England

ID	Distance (m)	Direction	SPA Name	Data Source
2A	1794	NW	Breydon Water	Natural England

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

1

The following Ramsar records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ramsar Site Name	Ramsar Site Status	Data Source
6A	1794	NW	Breydon Water	Listed	Natural England

### 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:

1

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
7	1797	NW	Breydon Water	Natural England

### 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:

2

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

ID	Distance (m)	Direction	ESA Name	Data Source
12	392	W	Broads	Natural England
Not shown	1839	W	Broads	Natural England

## 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:

2

The following National Park records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NP Name	Data Source
8	754	NW	The Broads	Natural England
Not shown	1839	W	The Broads	Natural England

## 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:

2

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
10	0	On Site	Existing	DEFRA
Not shown	1839	W	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 Geo Insight**, 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? Low

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

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

### 9.1.2 Landslides

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

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

Hazard
Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property no significant increase in insurance risk due to natural slope instability problems.

### 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?

High

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

Hazard
Very significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Construction may not be possible at economic cost. For existing property probable increase in insurance risk from compressibility especially if water conditions or loading of the ground change significantly.

### 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?

Moderate

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

Hazard
Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property without technical advice. For new build consider the consequences of soil and groundwater conditions during and after construction. For existing property possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.

## 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.

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?

No

Database searched and no data found.

---

## 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

## **CENTREMAPS**

Telephone: 01886 832972  
Groundsure@centremaps.co.uk  
Open Space, Upper Interfields, Malvern, Worcester, WR14 1UT



## **British Geological Survey Enquiries**

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Fax: 0115 936 3276.  
Email:

Web: [www.bgs.ac.uk](http://www.bgs.ac.uk)

BGS Geological Hazards Reports and general geological enquiries:  
[enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)



**British  
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

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Rotherham, S60 1BY  
Tel: 03708 506 506

Web: [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)



## **Public Health England**

Public information access office  
Public Health England, Wellington House  
133-155 Waterloo Road, London, SE1 8UG  
[www.gov.uk/phe](http://www.gov.uk/phe)

Email: [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)  
Main switchboard: 020 7654 8000



**Public Health  
England**

## **The Coal Authority**

200 Lichfield Lane  
Mansfield  
Notts NG18 4RG  
Tel: 0345 7626 848  
DX 716176 Mansfield 5  
[www.coal.gov.uk](http://www.coal.gov.uk)



**The Coal  
Authority**

## **Ordnance Survey**

Adanac Drive, Southampton  
SO16 0AS  
Tel: 08456 050505



## **Local Authority**

Authority: Great Yarmouth Borough Council  
Phone: 01493 856 100

Web: <http://www.great-yarmouth.gov.uk>

Address: Town Hall, Hall Plain, Great Yarmouth, Norfolk, NR30 2QF

## **Gemapping PLC**

Virginia Villas, High Street, Hartley Witney,  
Hampshire RG27 8NW  
Tel: 01252 845444



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<https://www.groundsure.com/terms-and-conditions-sept-2016>



CENTREMAPS

Open Space, Upper Interfields,  
Worcester, WR14 1UT

Report Reference: CMAPS-CM-636391-16287-  
030717GEO

Your Reference: 16287

Report Date 3 Jul 2017

Report Delivery Email - pdf  
Method:

## Geo Insight

Address: ,

Dear Sir/ Madam,

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

If you need any further assistance, please do not hesitate to contact our helpline on 01886 832972 quoting the above CENTREMAPS reference number.

Yours faithfully,

CENTREMAPS

Enc.  
Groundsure Geo Insight

Address: ,  
Date: 3 Jul 2017  
Reference: CMAPS-CM-636391-16287-030717GEO  
Client: CENTREMAPS



Aerial Photograph Capture date: 16-Apr-2014  
Grid Reference: 652320,306005  
Site Size: 43.58ha

# Contents Page

Contents Page.....	3
Overview of Findings.....	5
1:10,000 Scale Availability.....	8
Availability of 1:10,000 Scale Geology Mapping.....	9
1 Geology (1:10,000 scale).....	10
1.1 Artificial Ground Map (1:10,000 scale).....	10
1. Geology 1:10,000 scale.....	11
1.1 Artificial Ground.....	11
1.2 Superficial Deposits and Landslips Map (1:10,000 scale).....	12
1.2 Superficial Deposits and Landslips.....	13
1.2.1 Superficial Deposits/ Drift Geology.....	13
1.2.2 Landslip.....	13
1.3 Bedrock and Faults Map (1:10,000 scale).....	14
1.3 Bedrock and Faults.....	15
1.3.1 Bedrock/ Solid Geology.....	15
1.3.2 Faults.....	15
2 Geology 1:50,000 Scale.....	16
2.1 Artificial Ground Map.....	16
2. Geology 1:50,000 scale.....	17
2.1 Artificial Ground.....	17
2.1.1 Artificial/ Made Ground .....	17
2.1.2 Permeability of Artificial Ground.....	17
2.2 Superficial Deposits and Landslips Map (1:50,000 scale).....	18
2.2 Superficial Deposits and Landslips.....	19
2.2.1 Superficial Deposits/ Drift Geology.....	19
2.2.2 Permeability of Superficial Ground .....	19
2.2.3 Landslip.....	20
2.2.4 Landslip Permeability.....	20
2.3 Bedrock and Faults Map (1:50,000 scale).....	21
2.3 Bedrock, Solid Geology & Faults.....	22
2.3.1 Bedrock/Solid Geology.....	22
2.3.2 Permeability of Bedrock Ground.....	22
2.3.3 Faults.....	22
3 Radon Data.....	23
3.1 Radon Affected Areas.....	23
3.2 Radon Protection.....	23
4 Ground Workings Map.....	24
4 Ground Workings.....	25
4.1 Historical Surface Ground Working Features derived from Historical Mapping.....	25
4.2 Historical Underground Working Features derived from Historical Mapping.....	26
4.3 Current Ground Workings.....	26
5 Mining, Extraction & Natural Cavities.....	28
5.1 Historical Mining.....	28
5.2 Coal Mining.....	28
5.3 Johnson Poole and Bloomer.....	28
5.4 Non-Coal Mining.....	28
5.5 Non-Coal Mining Cavities.....	29
5.6 Natural Cavities.....	29
5.7 Brine Extraction.....	29
5.8 Gypsum Extraction.....	29
5.9 Tin Mining.....	29
5.10 Clay Mining.....	30
6 Natural Ground Subsidence.....	31
6.1 Shrink-Swell Clay Map.....	31
6.2 Landslides Map.....	32
6.3 Ground Dissolution of Soluble Rocks Map.....	33
6.4 Compressible Deposits Map.....	34
6.5 Collapsible Deposits Map.....	35
6.6 Running Sand Map.....	36



6 Natural Ground Subsidence.....	37
6.1 Shrink-Swell Clays.....	37
6.2 Landslides.....	38
6.3 Ground Dissolution of Soluble Rocks.....	38
6.4 Compressible Deposits.....	38
6.5 Collapsible Deposits.....	39
6.6 Running Sands.....	39
7 Borehole Records.....	42
8 Estimated Background Soil Chemistry.....	56
9 Railways and Tunnels Map.....	57
9 Railways and Tunnels.....	58
9.1 Tunnels .....	58
9.2 Historical Railway and Tunnel Features .....	58
9.3 Historical Railways.....	61
9.4 Active Railways.....	61
9.5 Railway Projects.....	61

# Overview of Findings

The Groundsure Geo Insight 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 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal 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 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	No
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and 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 of faults within 500m of the study site boundary at 1:10,000 scale?	No

## Section 2: Geology 1:50,000 Scale

2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	Yes
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

## Section 2: Geology 1:50,000 Scale

### 2.3 Bedrock, Solid Geology and Faults

2.3.1 For records of Bedrock and Solid Geology beneath the study site\* see the detailed findings section.

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

Yes

2.3.3 Are there any records of faults within 500m of the study site boundary?

No

## Section 3: Radon

### 3. Radon

3.1 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.

3.2 Radon Protection

No radon protective measures are necessary.

## Section 4: Ground Workings

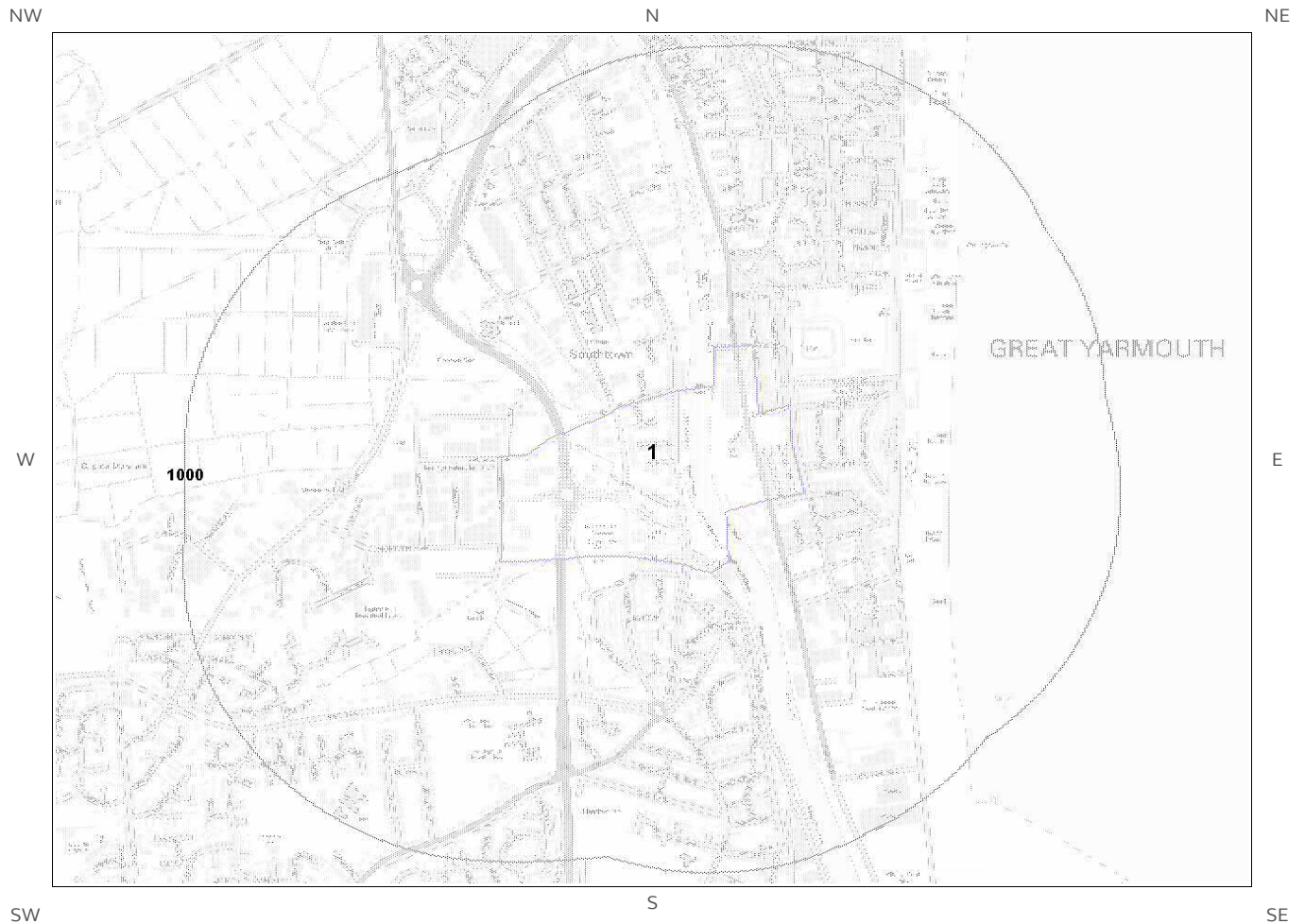
	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	11	1	12	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	1	2	0	1	4

## Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	0	0	0	0
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

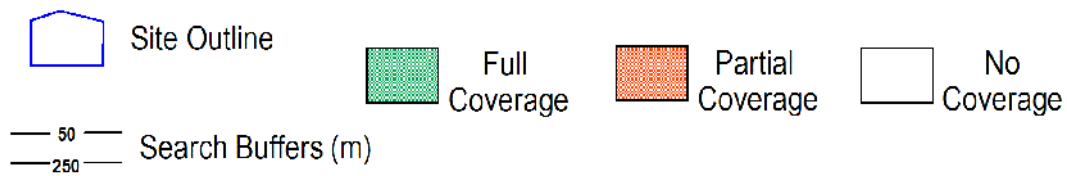
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Low				
6.2 Landslides	Low				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	High				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Moderate				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	107	33	77		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	16	3	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	31	6	21	Not Searched	
9.3 Historical Railways	3	0	0	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	0	

# 1:10,000 Scale Availability



**1\_10,000 Availability Legend**

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# Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	No deposits are mapped	No coverage	No coverage	No coverage

Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

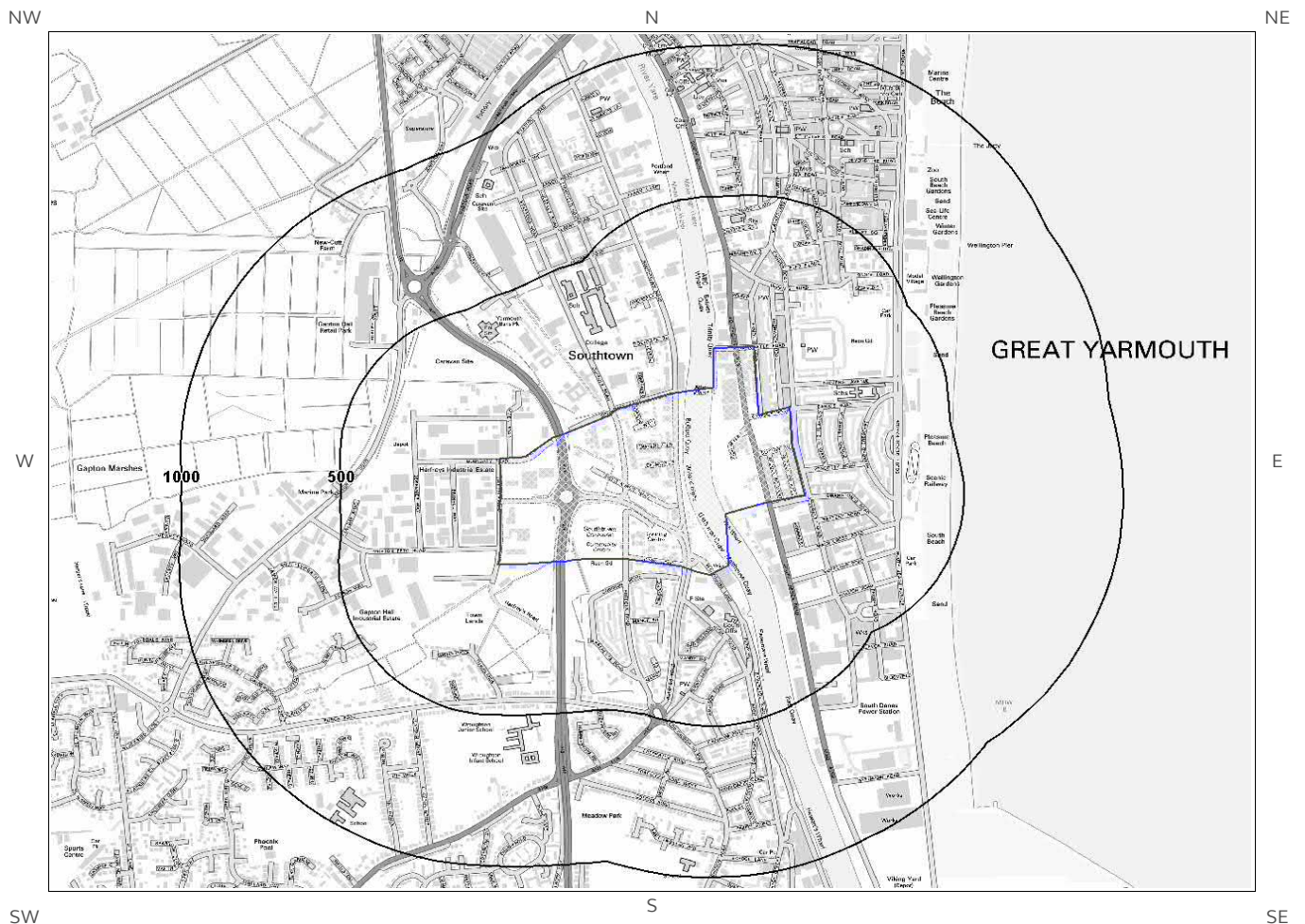
The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage



# 1 Geology (1:10,000 scale).

## 1.1 Artificial Ground Map (1:10,000 scale)



**Artificial Ground Legend**

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# 1. Geology 1:10,000 scale

## 1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

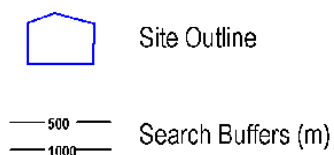
Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

---

[illegible]

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# 1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

## 1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

---

## 1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

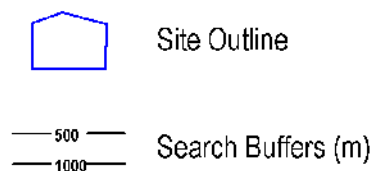
The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

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.

---



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## 1.3 Bedrock and Faults

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

### 1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

Database searched and no data found at this scale.

---

### 1.3.2 Faults

Are there any records of Faults within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

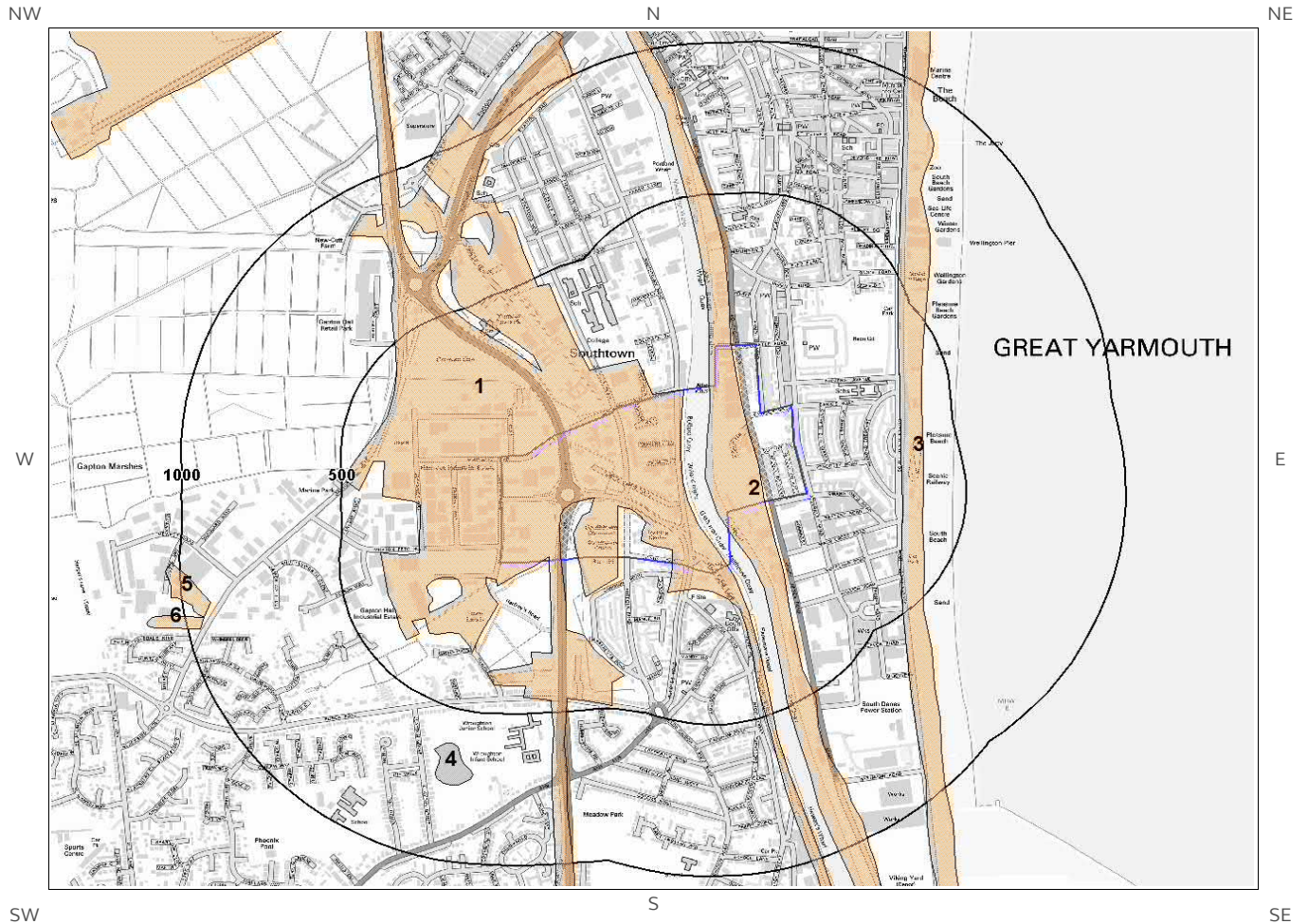
This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

---



# 2 Geology 1:50,000 Scale

## 2.1 Artificial Ground Map



Ground Workings Legend

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## 2. Geology 1:50,000 scale

### 2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 162

#### 2.1.1 Artificial/ Made Ground

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-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	0.0	On Site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	300.0	E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

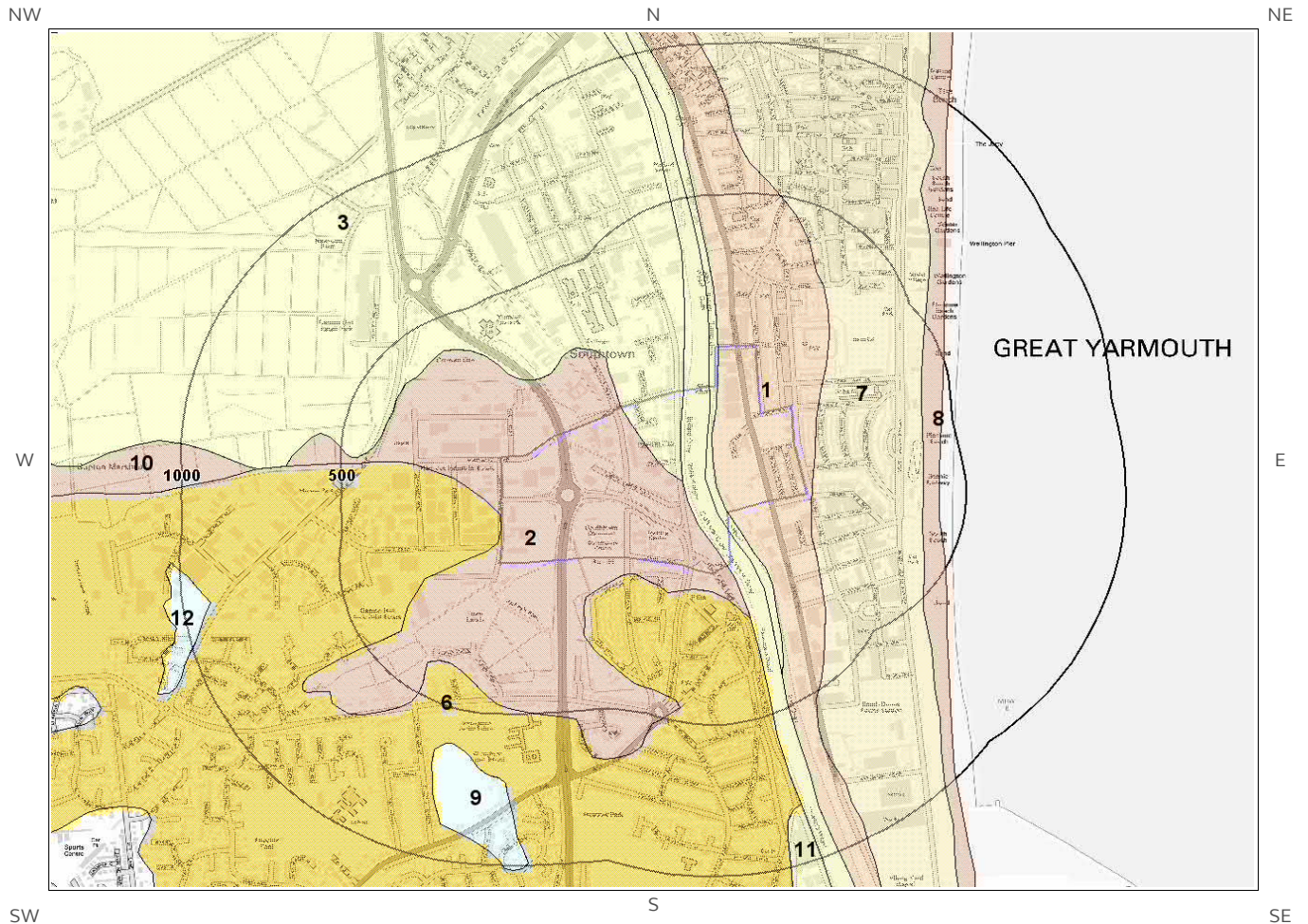
#### 2.1.2 Permeability of Artificial Ground

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
0.0	On Site	Mixed	Very High	Low

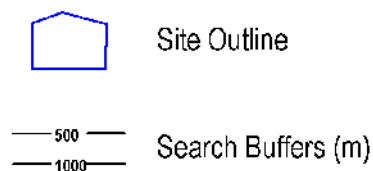


## 2.2 Superficial Deposits and Landslips Map (1:50,000 scale)



Ground Workings Legend

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## 2.2 Superficial Deposits and Landslips

### 2.2.1 Superficial Deposits/ Drift Geology

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

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	NRD-XSV	NORTH DENES FORMATION	SAND AND GRAVEL
2	0.0	On Site	BRYD-P	BREYDON FORMATION	PEAT
3	0.0	On Site	BRYD-XCZ	BREYDON FORMATION	CLAY AND SILT
4	0.0	On Site	BRYD-XCZ	BREYDON FORMATION	CLAY AND SILT
5	0.0	On Site	TRD-XCZ	TIDAL RIVER OR CREEK DEPOSITS	CLAY AND SILT
6	3.0	W	HPGL-S	HAPPISBURGH GLACIGENIC FORMATION	SAND
7	16.0	E	BSA-S	BLOWN SAND	SAND
8	366.0	E	MBD-XSV	MARINE BEACH DEPOSITS	SAND AND GRAVEL

### 2.2.2 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	Low	Very Low
0.0	On Site	Intergranular	Low	Very Low
0.0	On Site	Mixed	Low	Very Low
0.0	On Site	Mixed	Low	Very Low
0.0	On Site	Intergranular	Very High	High
3.0	W	Intergranular	High	High
16.0	E	Intergranular	High	High

### 2.2.3 Landslip

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

No

Database searched and no data found.

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, there 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.

---

### 2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary?

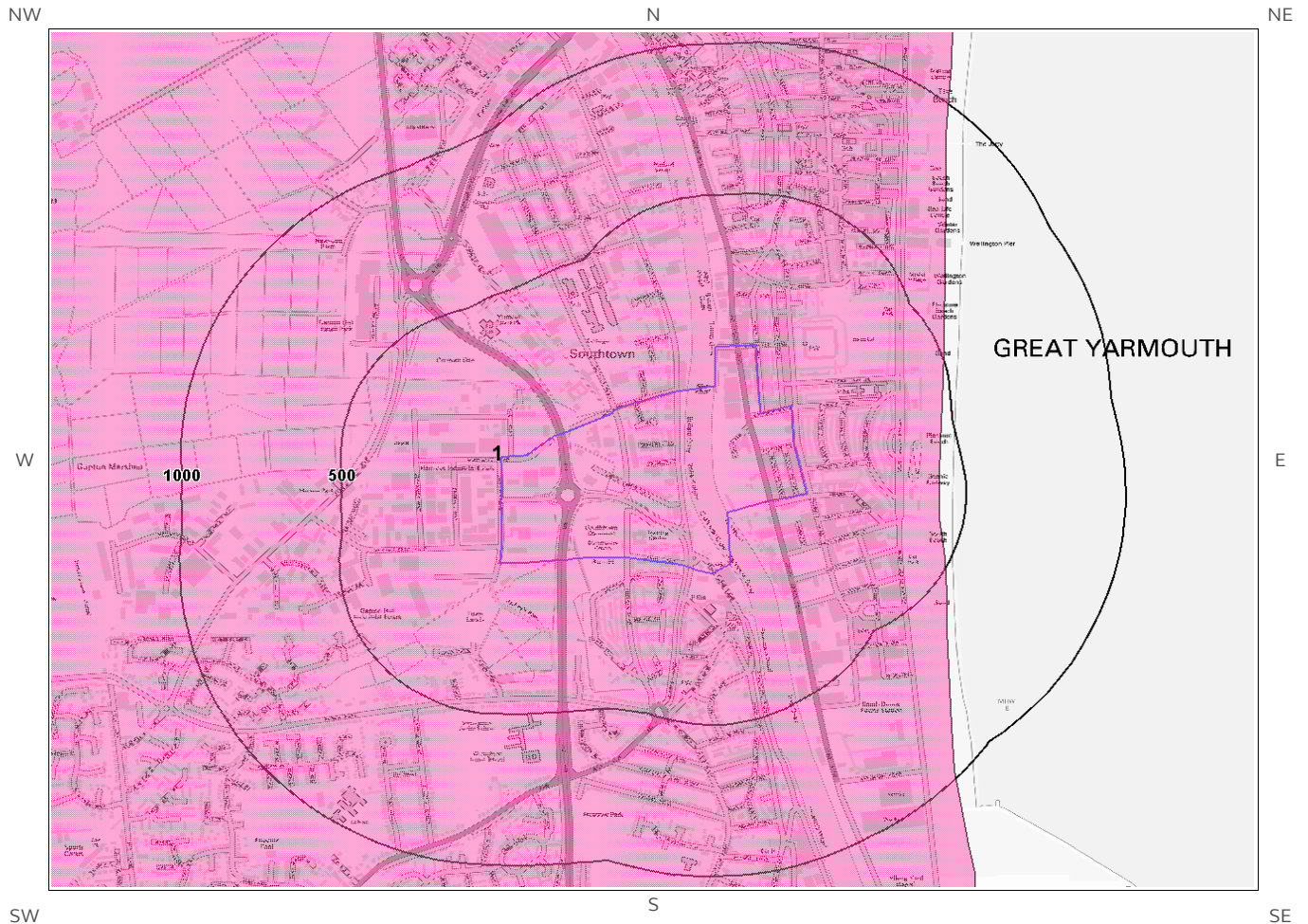
No

Database searched and no data found.

---

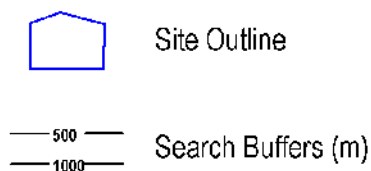


## 2.3 Bedrock and Faults Map (1:50,000 scale)



**Ground Workings Legend**

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## 2.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 162

### 2.3.1 Bedrock/Solid Geology

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

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	CRA-G-XSV	CRA-G GROUP - SAND AND GRAVEL	-

### 2.3.2 Permeability of Bedrock Ground

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

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	High

### 2.3.3 Faults

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

Database searched and no data found.

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 nation wide coverage.

# 3 Radon Data

## 3.1 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.

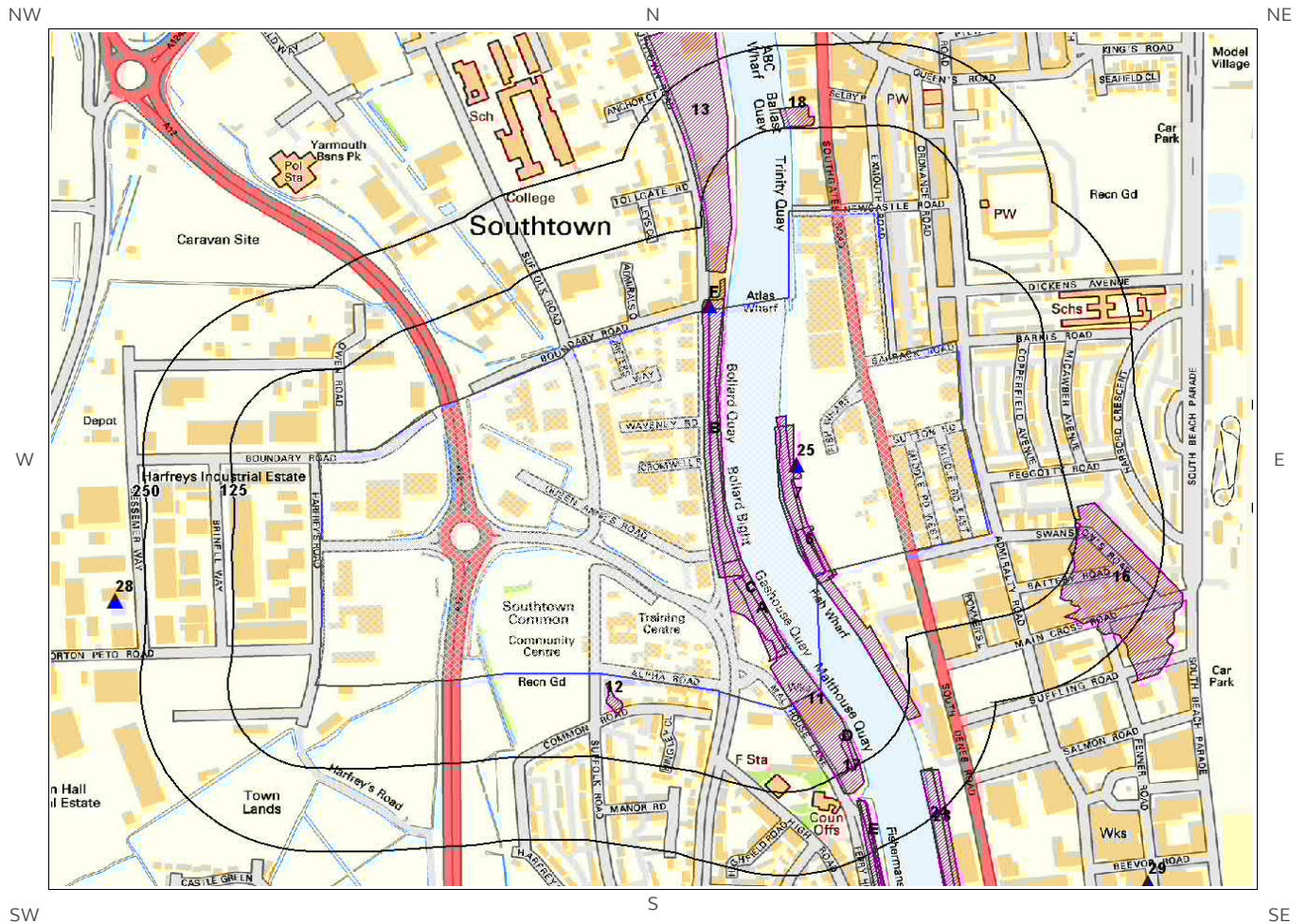
---

## 3.2 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.



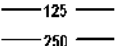


---

# 4 Ground Workings Map



Ground Workings Legend

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-  Site Outline
-  Historic Surface Ground Workings
-  Search Buffers (m)  
— 125 —  
— 250 —
-  Historic Underground Workings
-  Current Ground Workings

# 4 Ground Workings

## 4.1 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

ID	Distance (m)	Direction	NGR	Use	Date
1B	0.0	On Site	652403 306035	Quay	1952
2A	0.0	On Site	652474 305764	Quay	1904
3A	0.0	On Site	652474 305764	Quay	1946
4B	0.0	On Site	652408 306062	Quay	1988
5B	0.0	On Site	652408 306062	Quay	1978
6	0.0	On Site	652545 305863	Unspecified Wharf	1988
7	0.0	On Site	652518 305936	Unspecified Wharf	1884
8C	0.0	On Site	652466 305783	Quay	1988
9C	0.0	On Site	652466 305783	Quay	1978
10	0.0	On Site	652556 305840	Unspecified Wharf	1978
11	0.0	On Site	652552 305622	Quay	1978
12	15.0	S	652266 305643	Pond	1884
13	52.0	N	652371 306479	Dock	1946
14D	73.0	SE	652596 305561	Quay	1946
15D	73.0	SE	652596 305561	Quay	1904
16	117.0	E	652990 305803	Sand Pit	1884
17	124.0	SE	652602 305523	Quay	1988
18	127.0	N	652526 306521	Dry Docks	1904
19E	169.0	SE	652639 305395	Quay	1978
20E	169.0	SE	652639 305395	Quay	1988
21E	172.0	SE	652636 305385	Quay	1904

ID	Distance (m)	Direction	NGR	Use	Date
22E	172.0	SE	652636 305385	Quay	1946
23	188.0	SE	652776 305268	Quay	1952
24	188.0	SE	652742 305367	Quay	1978

## 4.2 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? No

Database searched and no data found.

## 4.3 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.

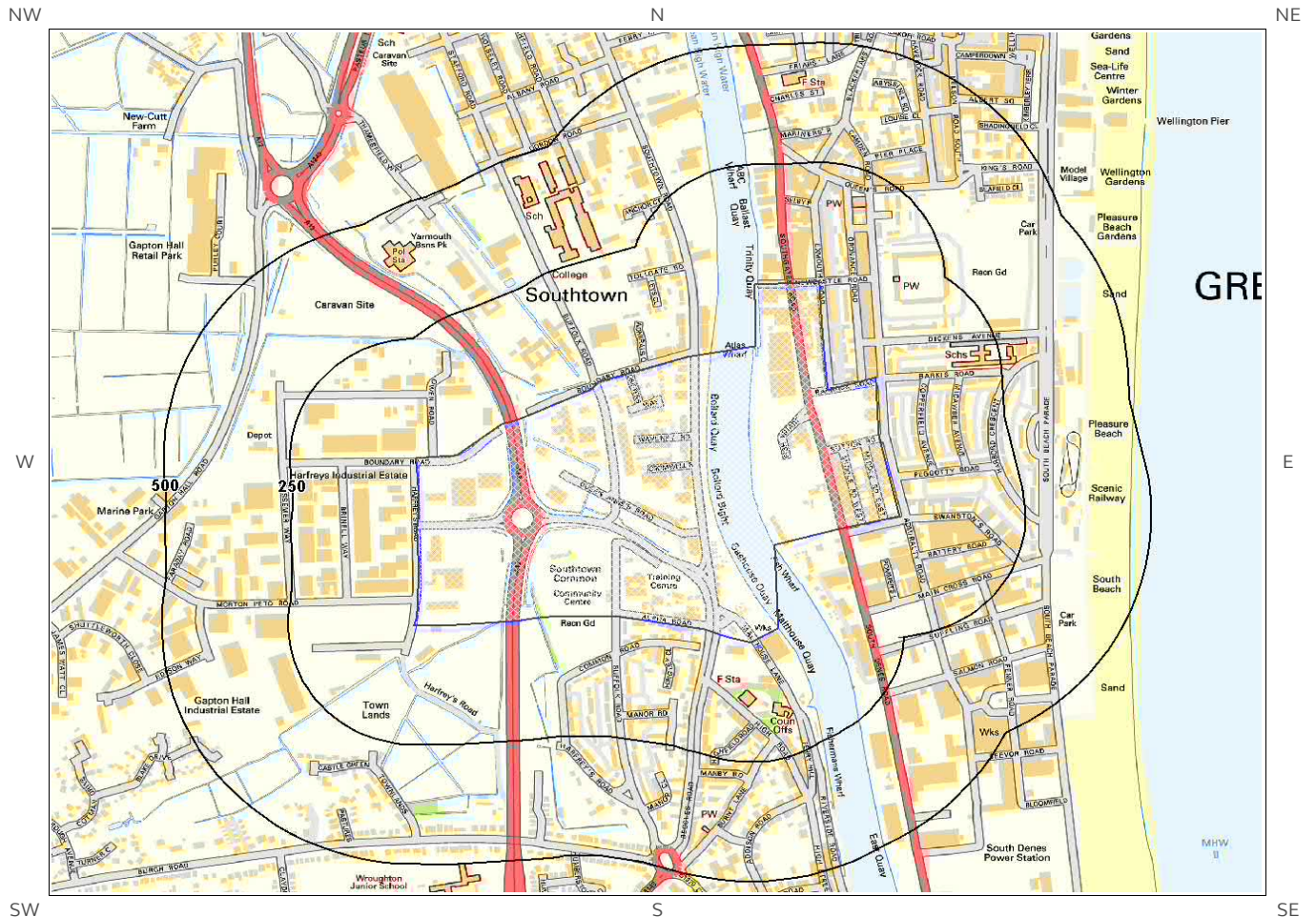
Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

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
25	0.0	On Site	652525 305995	Crushed Rock	Berth 4 Great Yarmouth Docks	Sea, river or canal wharf where mineral commodities are unloaded and stored	Active
26F	6.0	N	652400 306235	Crushed Rock	Great Yarmouth Wharf	Sea, river or canal wharf where mineral commodities are unloaded and stored	Inactive
27F	6.0	N	652400 306235	Secondary	Great Yarmouth Wharf	Sea, river or canal wharf where mineral commodities are unloaded and stored	Inactive
28	294.0	W	651553 305790	Sand & Gravel	Harfrey's Farm Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
29	549.0	SE	653026 305365	Sand	Nelson Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	686.0	S	651666 304999	Clay & Shale	Lilypit Cottage Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	766.0	S	651860 304897	Clay & Shale	Lily Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	911.0	N	652250 307250	Secondary	Yeoman Wharf	Sea, river or canal wharf where mineral commodities are unloaded and stored	Active



# 5 Mining, Extraction & Natural Cavities Map



**Mining, Extraction and  
Natural Cavities Legend**

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# 5 Mining, Extraction & Natural Cavities

## 5.1 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.

---

## 5.2 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? No

Database searched and no data found.

---

## 5.3 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? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

---

## 5.4 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? No

Database searched and no data found.

---

## 5.5 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.

---

## 5.6 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.

---

## 5.7 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.

---

## 5.8 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.

---

## 5.9 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.

---

## 5.10 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?

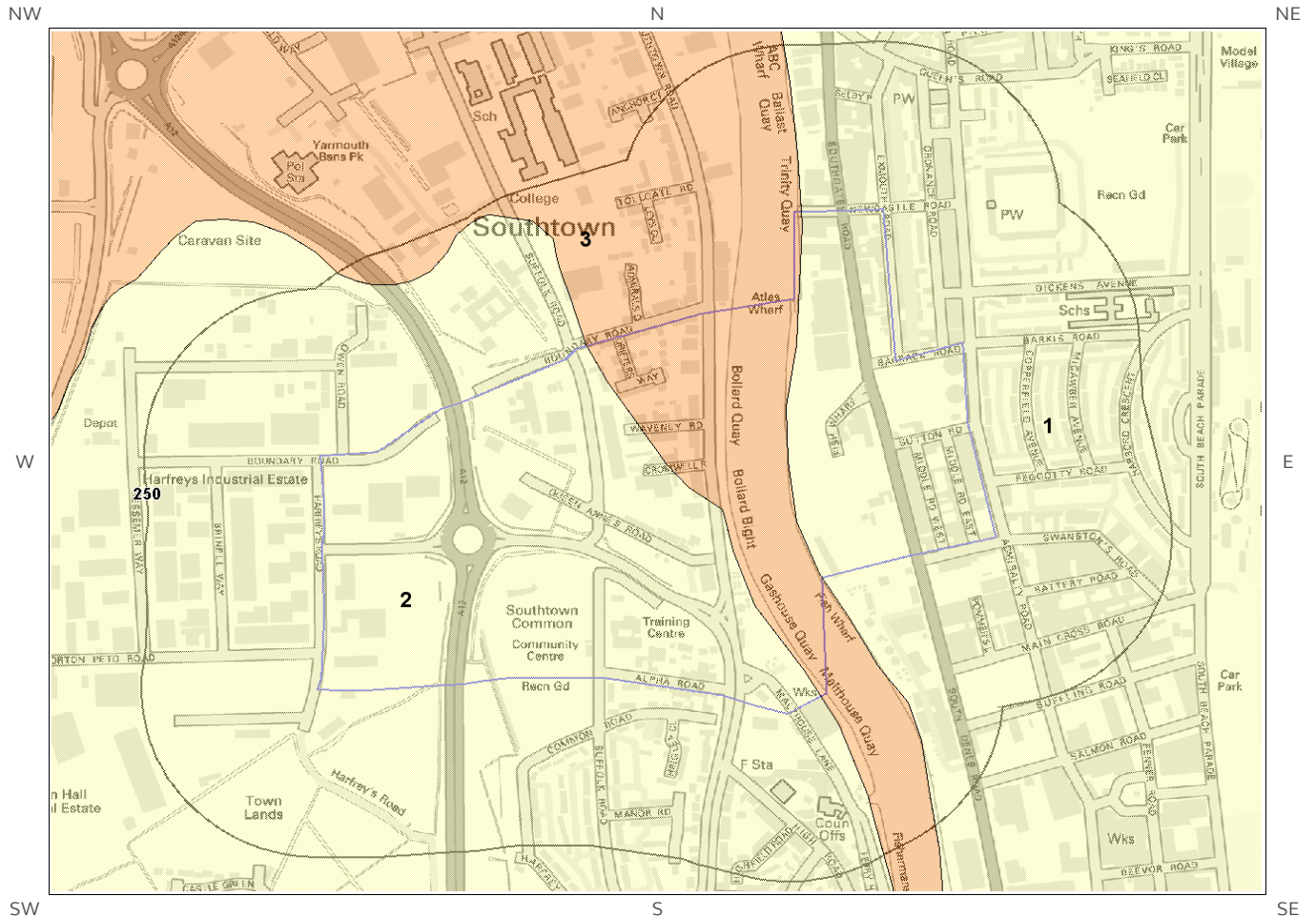
No

Database searched and no data found.

---

# 6 Natural Ground Subsidence

## 6.1 Shrink-Swell Clay Map



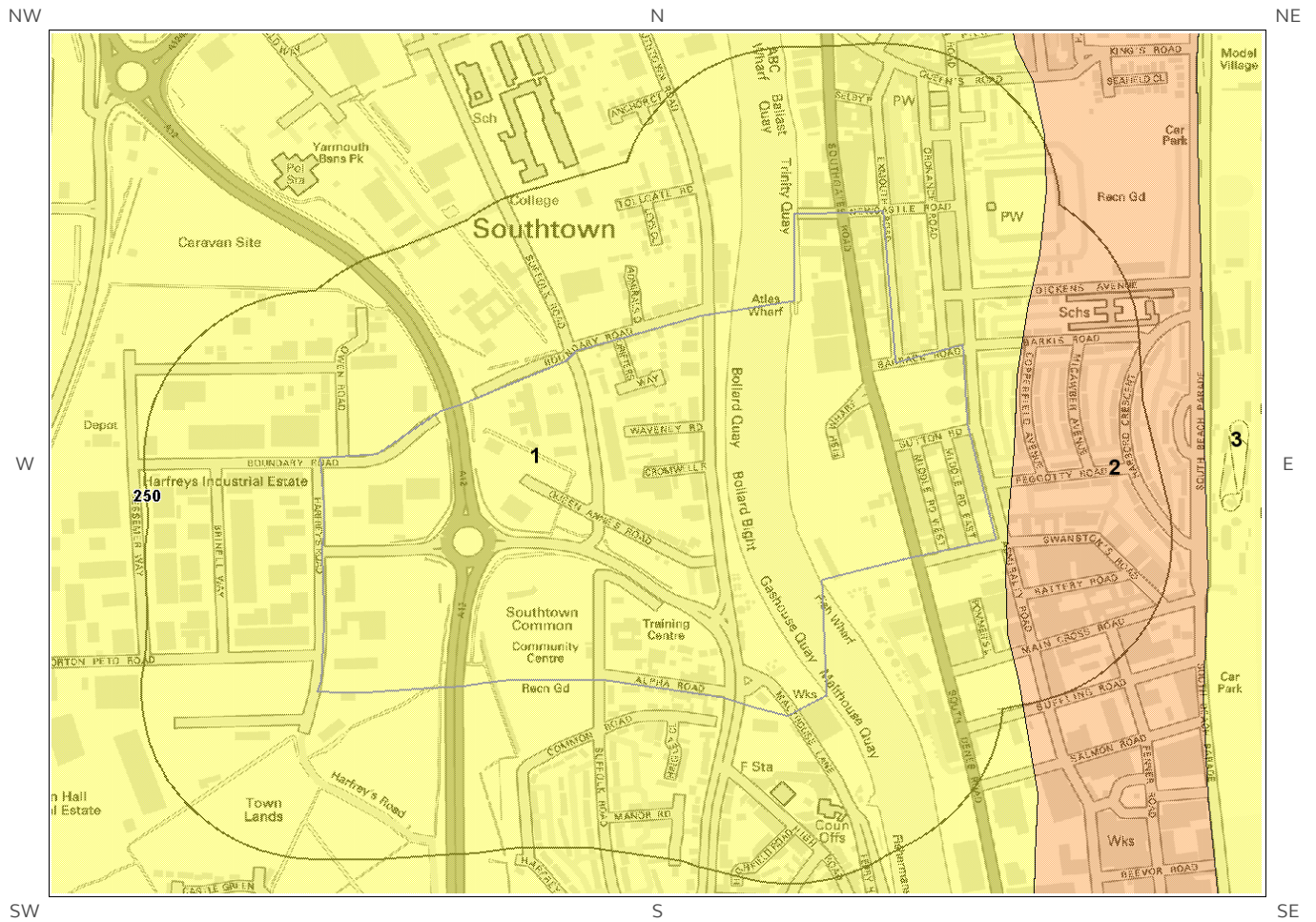
Shrink Swell Clay Legend

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## 6.2 Landslides Map



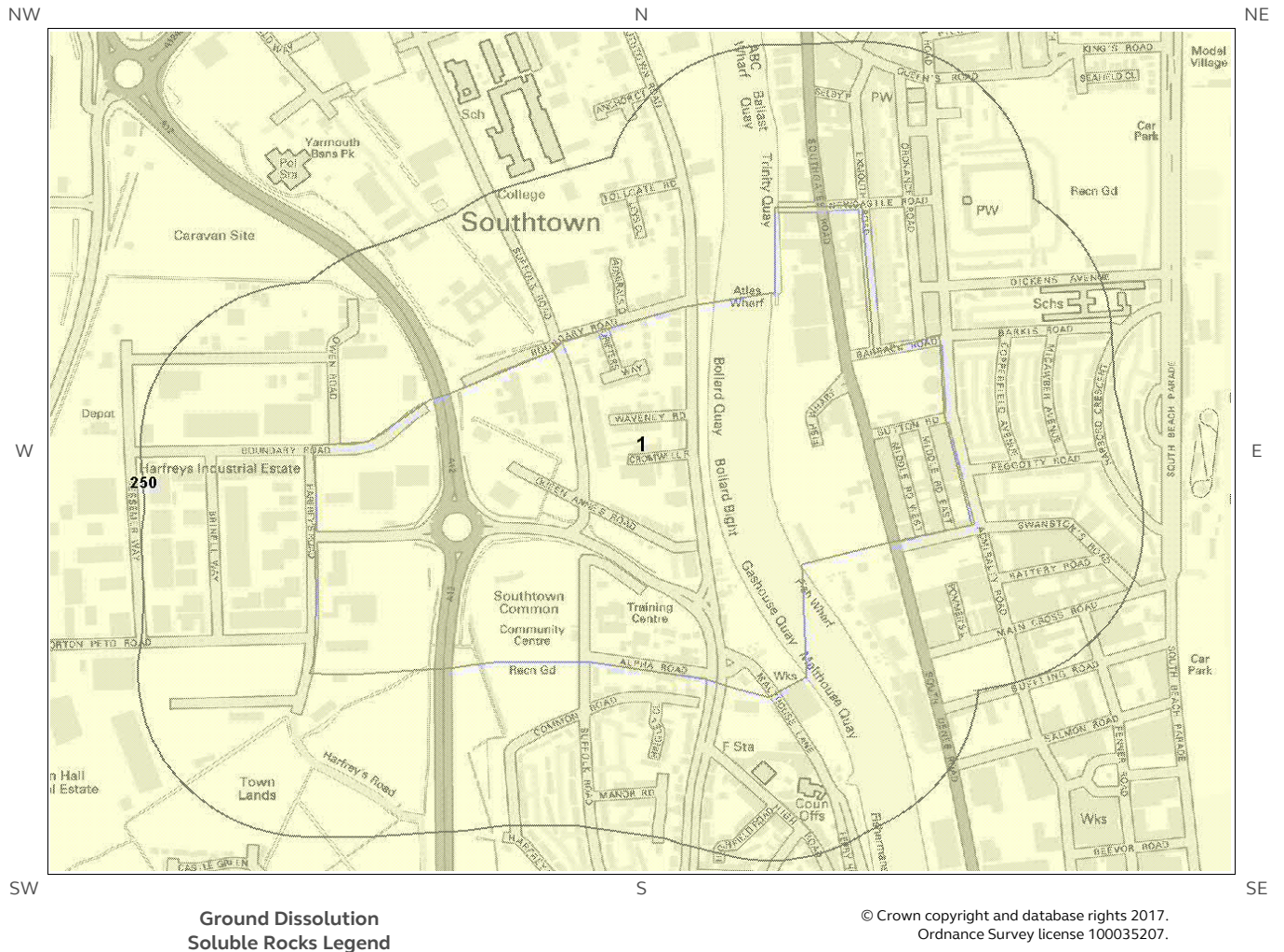
**Landslides Legend**

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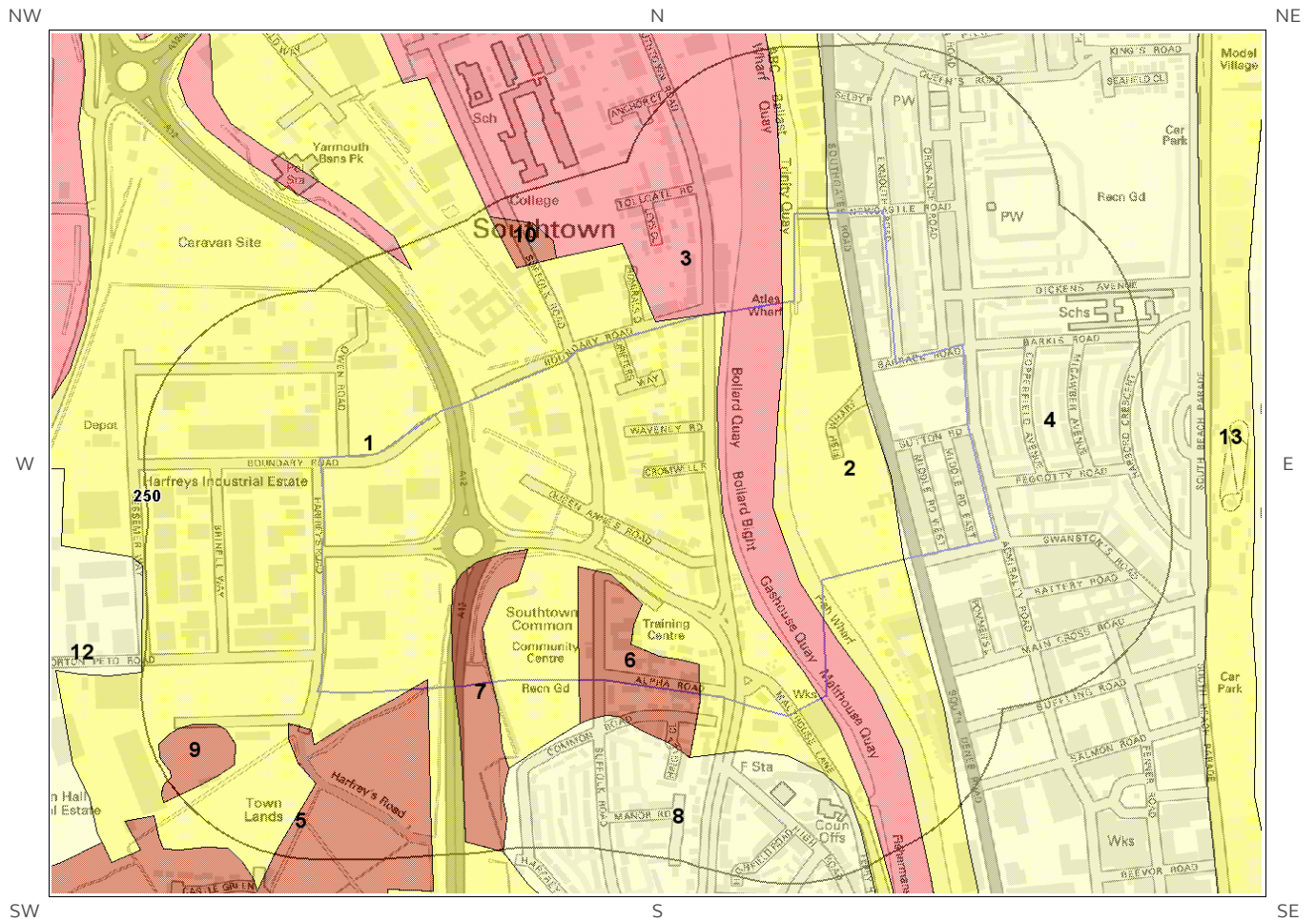


# 6.3 Ground Dissolution of Soluble Rocks Map





# 6.4 Compressible Deposits Map



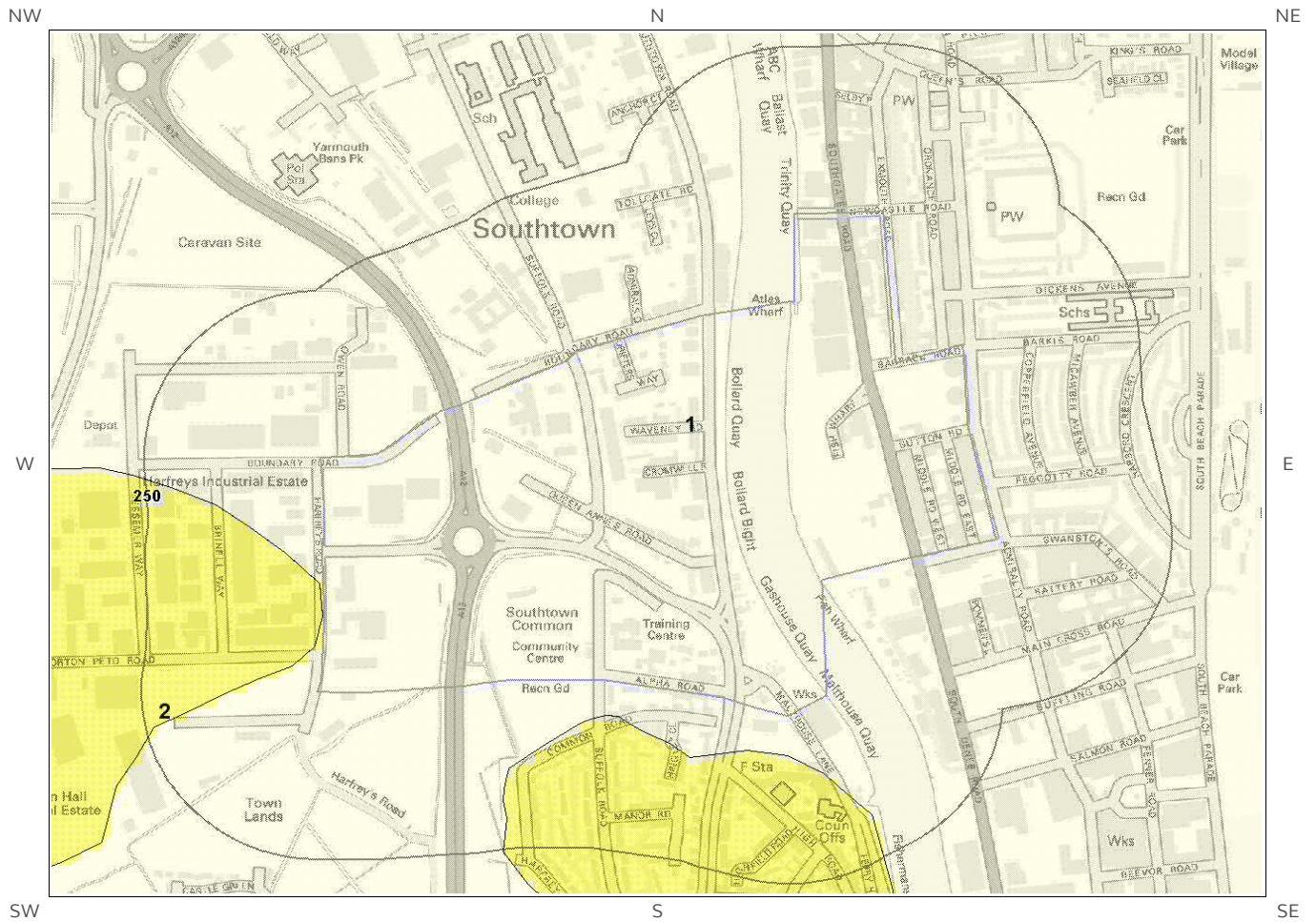
Compressible Deposits Legend

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# 6.5 Collapsible Deposits Map



**Collapsible Deposits Legend**

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[illegible]

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## 6 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? High

### 6.1 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 likely due to potential problems with shrink-swell clays.
2	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 likely due to potential problems with shrink-swell clays.
3	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

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

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.
2	16.0	E	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

## 6.3 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.

## 6.4 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 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.
2	0.0	On Site	Very Low	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.
3	0.0	On Site	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

ID	Distance (m)	Direction	Hazard Rating	Details
4	0.0	On Site	Negligible	No indicators for compressible deposits identified. 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.
5	0.0	On Site	High	Very significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Construction may not be possible at economic cost. For existing property - probable increase in insurance risk from compressibility especially if water conditions or loading of the ground change significantly.
6	0.0	On Site	High	Very significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Construction may not be possible at economic cost. For existing property - probable increase in insurance risk from compressibility especially if water conditions or loading of the ground change significantly.
7	0.0	On Site	High	Very significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Construction may not be possible at economic cost. For existing property - probable increase in insurance risk from compressibility especially if water conditions or loading of the ground change significantly.
8	50.0	S	Negligible	No indicators for compressible deposits identified. 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.

## 6.5 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	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	3.0	W	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.

## 6.6 Running Sands

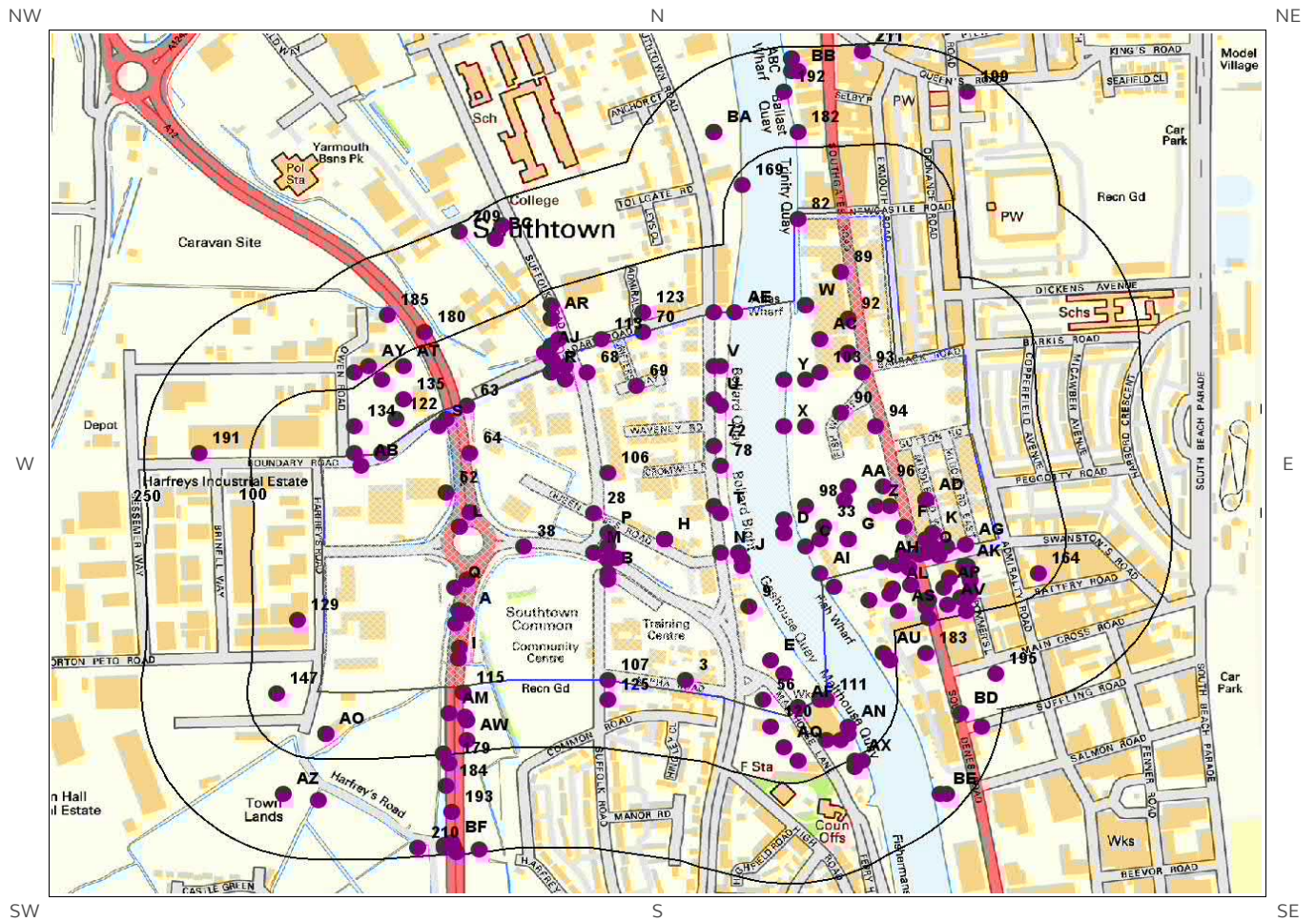
The following Running Sands information provided by the British Geological Survey:

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.



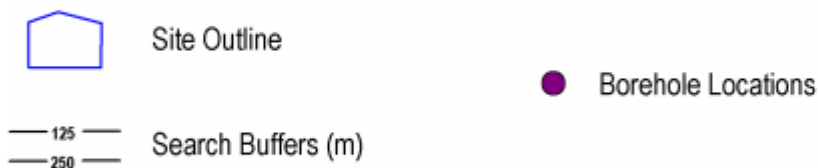
ID	Distance (m)	Direction	Hazard Rating	Details
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
3	0.0	On Site	Moderate	Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property without technical advice. For new build - consider the consequences of soil and groundwater conditions during and after construction. For existing property - possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.
4	1.0	N	Negligible	No indicators for running sand identified. 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	16.0	E	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.
6	50.0	S	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.

# 7 Borehole Records Map



Borehole Records Legend

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## 7 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:

217

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1Q	0.0	On Site	652033 305818	TG50NW45	5.0	A47 GORLESTON RELIEF ROAD
2A	0.0	On Site	652049 305780	TG50NW43	6.2	A47 GORLESTON RELIEF ROAD
3	0.0	On Site	652360 305680	TG50NW332	7.62	GT YAR BOR CNCL ALPHA ROAD 27
4AI	0.0	On Site	652550 305840	TG50NW590	15.0	FISHWHARF ZAPATA QUAY 2
5B	0.0	On Site	652250 305840	TG50NW164	24.38	GT YAR BOROUGH COUNCIL YARE TUNNEL 7
6J	0.0	On Site	652440 305860	TG50NW583	15.5	BOLLARD QUAY 6
7M	0.0	On Site	652230 305870	TG50NW185	6.71	GT YAR BOROUGH COUNCIL DRAINAGE SCHEME 3
8C	0.0	On Site	652530 305880	TG50NW591	15.0	FISHWHARF ZAPATA QUAY 3
9	0.0	On Site	652450 305790	TG50NW840	10.0	GAS QUAY GT YARMOUTH 1
10A	0.0	On Site	652038 305785	TG50NW374	2.3	A12 GORLESTON RELIEF RD GT YAR S BY PASS
11B	0.0	On Site	652250 305830	TG50NW27	12.0	A47 GT YARMOUTH WESTERN BY PASS 237
12C	0.0	On Site	652550 305890	TG50NW592	15.5	FISHWHARF ZAPATA QUAY 4
13H	0.0	On Site	652330 305890	TG50NW1008	18.28	CENTRAL ELECTRICITY BOARD GORLESTON
14D	0.0	On Site	652500 305900	TG50NW892	20.0	SOUTHGATES RD GT YARMOUTH 3
15D	0.0	On Site	652500 305900	TG50NW891	20.0	SOUTHGATES RD GT YARMOUTH 2
16D	0.0	On Site	652500 305900	TG50NW893	20.0	SOUTHGATES RD GT YARMOUTH 4
17A	0.0	On Site	652034 305764	TG50NW32	7.05	A47/A12 GORLESTON RELIEF ROAD
18L	0.0	On Site	652040 305910	TG50NW13	20.12	GORING CEB GREAT YARMOUTH
19I	0.0	On Site	652038 305712	TG50NW386	14.3	A12/A47 GORLESTON RELIEF RD REPORT
20E	0.0	On Site	652480 305710	TG50NW942	8.0	GAS HOUSE QUAY GT YARMOUTH 3
21F	0.0	On Site	652670 305910	TG50NW570	-1.0	FISH QUAY TRIAL PIT PS22

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
22E	0.0	On Site	652500 305690	TG50NW792	10.0	MALTHOUSE QUAY GT YARMOUTH 7
23D	0.0	On Site	652500 305920	TG50NW571	-1.0	FISH QUAY TRIAL PIT PS23
24G	0.0	On Site	652590 305890	TG50NW17/C	17.37	HIPPERSON & SON ELECTRICITY POWER STN
25F	0.0	On Site	652700 305890	TG50NW109	-1.0	CEGB 132 KV TRANSFORMER SITE GT YAR DKM 3
26G	0.0	On Site	652590 305890	TG50NW998	17.1	ELECTRICAL POWER STATION GREAT YARMOUTH NO 1
27H	0.0	On Site	652330 305890	TG50NW995	13.71	CENTRAL ELECTRICITY BOARD GORLESTON
28	0.0	On Site	652230 305930	TG50NW184	7.01	GT YAR BOROUGH COUNCIL DRAINAGE SCHEME 2
29T	0.0	On Site	652410 305930	TG50NW582	15.5	BOLLARD QUAY 5
30K	0.0	On Site	652710 305900	TG50NW108	-1.0	CEGB 132 KV TRANSFORMER SITE GT YAR DKM 2
31I	0.0	On Site	652040 305728	TG50NW44	6.2	A47 GORLESTON RELIEF ROAD
32D	0.0	On Site	652500 305900	TG50NW890	20.0	SOUTHGATES RD GT YARMOUTH 1
33	0.0	On Site	652555 305910	TG50NW162	36.58	GT YAR BOROUGH COUNCIL YARE TUNNEL 5
34O	0.0	On Site	652700 305870	TG50NW110	-1.0	CEGB 132 KV TRANSFORMER SITE GT YAR DKM 4
35N	0.0	On Site	652410 305870	TG50NW588	20.0	BOLLARD QUAY 11
36J	0.0	On Site	652435 305870	TG50NW163	36.58	GT YAR BOROUGH COUNCIL YARE TUNNEL 6
37K	0.0	On Site	652710 305880	TG50NW107	-1.0	CEGB 132 KV TRANSFORMER SITE GT YAR DKM 1
38	0.0	On Site	652130 305880	TG50NW472	15.0	A12 GT YARMOUTH WESTERN BY-PASS 318
39G	0.0	On Site	652590 305890	TG50NW17/B	14.02	HIPPERSON & SON ELECTRICITY POWER STN
40P	0.0	On Site	652250 305900	TG50NW29	10.0	A47 GT YARMOUTH WESTERN BY PASS 239
41L	0.0	On Site	652040 305910	TG50NW1026	17.67	CENTRAL ELECTRICITY BOARD GREAT YARMOUTH
42L	0.0	On Site	652040 305910	TG50NW1005	20.11	CENTRAL ELECTRICITY BOARD GREAT YARMOUTH
43M	0.0	On Site	652250 305860	TG50NW26	11.0	A47 GT YARMOUTH WESTERN BY PASS 236
44N	0.0	On Site	652440 305850	TG50NW180	9.15	GT YAR BOROUGH COUNCIL SEWERAGE WORKS 14
45O	0.0	On Site	652668 305865	TG50NW1057	8.0	ADMIRALTY ROAD GREAT YARMOUTH 210

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
46B	0.0	On Site	652262 305862	TG50NW429	7.6	A12 GT YAR W BY PASS DOT REPORT
47P	0.0	On Site	652250 305880	TG50NW28	11.5	A47 GT YARMOUTH WESTERN BY PASS 238
48Q	0.0	On Site	652050 305830	TG50NW46	4.5	A47 GORLESTON RELIEF ROAD
49L	0.0	On Site	652054 305931	TG50NW428	17.0	A12 GT YAR W BY PASS DOT REPORT
50H	0.0	On Site	652330 305890	TG50NW1009	24.38	CENTRAL ELECTRICITY BOARD GORLESTON
51AH	0.0	On Site	652638 305856	TG50NW1050	17.0	ADMIRALTY ROAD GREAT YARMOUTH 202
52L	0.0	On Site	652040 305910	TG50NW1006	16.76	CENTRAL ELECTRICITY BOARD GREAT YARMOUTH
53G	0.0	On Site	652590 305890	TG50NW17/A	17.07	HIPPERSON & SON ELECTRICITY POWER STN
54H	0.0	On Site	652330 305890	TG50NW12	18.29	GORING CEG GREAT YARMOUTH
55AF	0.0	On Site	652520 305640	TG50NW793	19.0	MALHOUSE QUAY GT YARMOUTH 8
56	0.0	On Site	652470 305650	TG50NW795	10.5	MALHOUSE QUAY GT YARMOUTH 10
57K	0.0	On Site	652730 305880	TG50NW1063	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 106
58O	0.0	On Site	652691 305868	TG50NW1053	8.5	ADMIRALTY ROAD GREAT YARMOUTH 205
59AG	0.0	On Site	652757 305882	TG50NW1065	5.0	ADMIRALTY ROAD GREAT YARMOUTH WS 108
60AB	0.0	On Site	651900 306000	TG50NW687	0.9	BGS AUGR HL 162 GAPTON MARSHES
61S	0.0	On Site	652010 306060	TG50NW467	2.5	A12 GT YARMOUTH WESTERN BY-PASS 235
62	0.0	On Site	652020 305960	TG50NW226	11.8	GT YAR BOR CNCL A12 WESTERN BY PASS
63	0.0	On Site	652050 306090	TG50NW466	24.3	A12 GT YARMOUTH WESTERN BY-PASS 234
64	0.0	On Site	652054 306020	TG50NW430	11.3	A12 GT YAR W BY PASS DOT REPORT
65R	0.0	On Site	652170 306140	TG50NW308	-1.0	GT YAR BOR CNCL HIGH MILL RD CPT 11
66R	0.0	On Site	652190 306150	TG50NW181	14.8	GT YAR BOROUGH COUNCIL SEWERAGE WORKS 25
67R	0.0	On Site	652190 306130	TG50NW306	-1.0	GT YAR BOR CNCL HIGH MILL RD CPT 9
68	0.0	On Site	652220 306140	TG50NW183	7.01	GT YAR BOROUGH COUNCIL DRAINAGE SCHEME 1
69	0.0	On Site	652290 306120	TG50NW307	-1.0	GT YAR BOR CNCL HIGH MILL RD CPT 10
70	0.0	On Site	652300 306200	TG50NW310	-1.0	GT YAR BOR CNCL HIGH MILL RD CPT 13
71S	0.0	On Site	652020 306070	TG50NW468	25.0	A12 GT YARMOUTH WESTERN BY-PASS 235A
72	0.0	On Site	652400 306030	TG50NW586	20.0	BOLLARD QUAY 9
73U	0.0	On Site	652400 306100	TG50NW908	25.0	SOUTHTOWN RD GT YARMOUTH 1



ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
74V	0.0	On Site	652400 306150	TG50NW585	15.5	BOLLARD QUAY 8
75T	0.0	On Site	652400 305940	TG50NW587	11.5	BOLLARD QUAY 10
76U	0.0	On Site	652410 306090	TG50NW580	15.5	BOLLARD QUAY 3
77V	0.0	On Site	652410 306150	TG50NW579	15.0	BOLLARD QUAY 2
78	0.0	On Site	652410 306000	TG50NW581	15.0	BOLLARD QUAY 4
79AE	0.0	On Site	652430 306230	TG50NW578	15.5	BOLLARD QUAY 1
80Y	0.0	On Site	652500 306130	TG50NW341	20.5	GREAT YARMOUTH FLOOD DEFENCES 1
81X	0.0	On Site	652500 306060	TG50NW342	22.1	GREAT YARMOUTH FLOOD DEFENCES 2
82	0.0	On Site	652520 306370	TG50NW928	26.0	TRINTY QUAY GT YARMOUTH 2
83W	0.0	On Site	652530 306240	TG50NW934	20.0	SOUTHGATES RD GT YARMOUTH 12
84W	0.0	On Site	652530 306240	TG50NW935	20.0	SOUTHGATES RD GT YARMOUTH 13
85W	0.0	On Site	652530 306240	TG50NW933	20.0	SOUTHGATES RD GT YARMOUTH 11
86X	0.0	On Site	652530 306060	TG50NW344	25.0	GREAT YARMOUTH FLOOD DEFENCES 4
87Y	0.0	On Site	652530 306130	TG50NW343	25.0	GREAT YARMOUTH FLOOD DEFENCES 3
88R	0.0	On Site	652170 306140	TG50NW210	18.5	GT YAR COUNCIL STH TOWN PUMPING STN 2A
89	0.0	On Site	652580 306290	TG50NW276	-1.0	GT YAR BOR CNCL SOUTHGATE ROAD 2047A
90	0.0	On Site	652580 306080	TG50NW573	-1.0	FISH QUAY TRIAL PIT PS25
91AA	0.0	On Site	652590 305970	TG50NW577	-1.0	FISH QUAY TRIAL PIT PP4
92	0.0	On Site	652590 306220	TG50NW279	-1.0	GT YAR BOR CNCL SOUTHGATE ROAD 2047D
93	0.0	On Site	652610 306140	TG50NW277	-1.0	GT YAR BOR CNCL SOUTHGATE ROAD 2047B
94	0.0	On Site	652630 306060	TG50NW572	-1.0	FISH QUAY TRIAL PIT PS24
95Z	0.0	On Site	652630 305940	TG50NW576	-1.0	FISH QUAY TRIAL PIT PP3
96	0.0	On Site	652640 305970	TG50NW574	-1.0	FISH QUAY TRIAL PIT PP1
97Z	0.0	On Site	652650 305940	TG50NW575	-1.0	FISH QUAY TRIAL PIT PP2
98	0.0	On Site	652530 305940	TG50NW368	3.0	GREAT YARMOUTH FLOOD DEFENCES TP 12
99AA	0.0	On Site	652585 305950	TG50NW161	24.38	GT YAR BOROUGH COUNCIL YARE TUNNEL 4
100A D	0.0	On Site	652700 305950	TG50NW996	9.4	SUTTON ROAD GREAT YARMOUTH

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
101A B	0.0	On Site	651930 306020	TG50NW1081	5.0	TRAVIS PERKINS GREAT YARMOUTH WS102
102A C	0.0	On Site	652550 306190	TG50NW1046	30.34	GREAT YARMOUTH (FISHWHARF OFF SOUTH DENES ROAD) 3
103	0.0	On Site	652550 306140	TG50NW1045	30.32	GREAT YARMOUTH (FISHWHARF OFF SOUTH DENES ROAD) 2
104A C	0.0	On Site	652590 306170	TG50NW1044	30.45	GREAT YARMOUTH (FISHWHARF OFF SOUTH DENES ROAD) 1A
105A D	0.0	On Site	652700 305950	TG50NW23	9.45	SUTTON RD GT YARMOUTH
106	0.0	On Site	652250 305990	TG50NW4	7.01	GREAT YARMOUTH NO 4
107	0.0	S	652250 305680	TG50NW331	7.62	SUFFOLK ROAD 26
108A E	1.0	N	652400 306230	TG50NW584	20.0	BOLLUAY QUAY 7
109A F	1.0	SE	652550 305650	TG50NW353	25.0	GREAT YARMOUTH FLOOD DEFENCES 13
110A B	4.0	N	651890 306020	TG50NW1076	20.2	TRAVIS PERKINS GREAT YARMOUTH 101
111	6.0	SE	652560 305650	TG50NW350	20.0	GREAT YARMOUTH FLOOD DEFENCES 10
112A G	6.0	S	652719 305867	TG50NW1048	8.2	ADMIRALTY ROAD GREAT YARMOUTH 102
113	7.0	N	652240 306190	TG50NW309	-1.0	GT YAR BOR CNCL HIGH MILL RD CPT 12
114A H	7.0	S	652658 305852	TG50NW1070	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 201
115	10.0	S	652045 305662	TG50NW41	7.8	A47 GORLESTON RELIEF ROAD
116R	11.0	NW	652170 306160	TG50NW209	15.25	GT YAR COUNCIL STH TOWN PUMPING STN 1A
117R	11.0	NW	652170 306160	TG50NW182	15.25	GT YAR BOROUGH COUNCIL SEWERAGE WORKS 26
118AI	14.0	S	652570 305820	TG50NW281	-1.0	GT YAR BOR CNCL FISH WHARF B12
119O	15.0	S	652676 305848	TG50NW1051	14.4	ADMIRALTY ROAD GREAT YARMOUTH 203
120	23.0	S	652480 305610	TG50NW796	10.0	MALHOUSE QUAY GT YARMOUTH 11
121AJ	24.0	NW	652160 306170	TG50NW179	18.3	GT YAR BOROUGH COUNCIL SEWERAGE WORKS 11
122	26.0	NW	651950 306070	TG50NW1079	18.5	TRAVIS PERKINS GREAT YARMOUTH 104
123	28.0	N	652300 306230	TG50NW3	10.67	GREAT YARMOUTH NO 3
124AJ	29.0	NW	652170 306180	TG50NW212	15.0	GT YAR COUNCIL SUFFOLK RD SEWERAGE 5
125	30.0	S	652250 305650	TG50NW5	7.62	GREAT YARMOUTH NO 5
126AJ	30.0	NW	652180 306190	TG50NW178	18.3	GT YAR BOROUGH COUNCIL SEWERAGE WORKS 10

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
127A K	31.0	S	652754 305850	TG50NW1067	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 110
128A K	31.0	S	652760 305851	TG50NW1068	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 111
129	38.0	W	651810 305770	TG50NW958	-1.0	HARFREYS ROAD GRT YARMOUTH 1
130AL	39.0	S	652653 305817	TG50NW1054	9.0	ADMIRALTY ROAD GREAT YARMOUTH 207
131A M	40.0	S	652025 305630	TG50NW31	9.5	A47/A12 GORLESTON RELIEF ROAD
132AL	41.0	S	652679 305822	TG50NW1052	13.1	ADMIRALTY ROAD GREAT YARMOUTH 204
133A K	43.0	S	652734 305833	TG50NW1066	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 109
134	44.0	N	651890 306060	TG50NW1080	6.0	TRAVIS PERKINS GREAT YARMOUTH WS101
135	45.0	NW	651960 306100	TG50NW1084	5.0	TRAVIS PERKINS GREAT YARMOUTH WS105
136AL	46.0	S	652649 305809	TG50NW1071	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 202
137A K	46.0	S	652762 305836	TG50NW1069	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 112
138AL	47.0	S	652620 305800	TG50NW287	-1.0	GT YAR BOR CNCL FISH WHARF B22
139A Q	47.0	S	652500 305580	TG50NW797	15.5	MALTHOUSE QUAY GT YARMOUTH 12A
140A M	47.0	S	652048 305625	TG50NW42	8.0	A47 GORLESTON RELIEF ROAD
141A M	52.0	S	652050 305620	TG50NW385	12.0	A12 GORLESTON RELIEF RD GT YAR S BY PASS
142A K	53.0	S	652763 305829	TG50NW1064	1.0	ADMIRALTY ROAD GREAT YARMOUTH WS 107
143A P	56.0	S	652726 305818	TG50NW1047	8.0	ADMIRALTY ROAD GREAT YARMOUTH 101
144A N	56.0	SE	652590 305610	TG50NW349	20.0	GREAT YARMOUTH FLOOD DEFENCES 9
145A N	59.0	SE	652560 305590	TG50NW794	19.0	MALTHOUSE QUAY GT YARMOUTH 9A
146A R	59.0	NW	652170 306220	TG50NW211	27.0	GT YAR COUNCIL SUFFOLK RD SEWERAGE 4
147	59.0	W	651780 305660	TG50NW225	10.7	GT YAR BOR CNCL A12 WESTERN BY PASS
148A O	63.0	S	651850 305600	TG50NW923	20.0	HARFREYS RD GT YARMOUTH 1
149A O	63.0	S	651850 305600	TG50NW924	20.0	HARFREYS RD GT YARMOUTH 2
150A O	63.0	S	651850 305600	TG50NW925	20.0	HARFREYS RD GT YARMOUTH 3
151A O	63.0	S	651850 305600	TG50NW926	20.0	HARFREYS RD GT YARMOUTH 4
152A N	64.0	SE	652590 305600	TG50NW75	1.2	GT YARMOUTH FLOOD DEFENCES POSFORD PAVRY C15
153A P	68.0	S	652700 305800	TG50NW946	20.0	SOUTH DENES ROAD 1
154A P	68.0	S	652700 305800	TG50NW947	15.5	SOUTH DENES ROAD 2

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
155A Q	68.0	S	652520 305560	TG50NW798	10.0	MALTHOUSE QUAY GT YARMOUTH 13
156A N	68.0	SE	652580 305590	TG50NW352	25.0	GREAT YARMOUTH FLOOD DEFENCES 12
157A P	70.0	S	652705 305799	TG50NW1055	8.0	ADMIRALTY ROAD GREAT YARMOUTH 208
158A P	70.0	S	652764 305812	TG50NW1062	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 105
159A S	74.0	S	652662 305783	TG50NW1049	15.35	ADMIRALTY ROAD GREAT YARMOUTH 201
160A P	75.0	S	652750 305804	TG50NW1060	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 103
161A R	76.0	NW	652170 306240	TG50NW177	9.15	GT YAR BOROUGH COUNCIL SEWERAGE WORKS 9
162A P	76.0	S	652758 305804	TG50NW1061	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 104
163A S	77.0	S	652700 305790	TG50NW569	-1.0	FISH QUAY TRIAL PIT PS21
164	79.0	SE	652860 305840	TG50NW589	15.0	FISHWHARF ZAPATA QUAY 1
165A V	81.0	S	652731 305793	TG50NW1059	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 102
166A U	82.0	E	652640 305720	TG50NW871	10.0	FISH WHARF GT YARMOUTH 1
167A W	82.0	S	652050 305590	TG50NW39	5.0	A47/A12 GORLESTON RELIEF ROAD
168A T	85.0	NW	651960 306150	TG50NW1078	16.2	TRAVIS PERKINS GREAT YARMOUTH 103
169	86.0	NW	652440 306420	TG50NW927	22.0	TRINTY QUAY GT YARMOUTH 1
170A T	87.0	NW	651930 306130	TG50NW1082	5.0	TRAVIS PERKINS GREAT YARMOUTH WS103
171A U	91.0	E	652650 305710	TG50NW872	10.0	FISH WHARF GT YARMOUTH 2
172A S	95.0	S	652704 305773	TG50NW1056	8.0	ADMIRALTY ROAD GREAT YARMOUTH 209
173A V	96.0	S	652758 305784	TG50NW1058	4.0	ADMIRALTY ROAD GREAT YARMOUTH WS 101
174A W	100.0	S	652016 305570	TG50NW40	6.1	A47 GORLESTON RELIEF ROAD
175A X	104.0	SE	652600 305560	TG50NW76	2.4	GT YARMOUTH FLOOD DEFENCES POSFORD PAVRY C16
176A X	109.0	SE	652610 305560	TG50NW348	20.0	GREAT YARMOUTH FLOOD DEFENCES 8
177A X	113.0	SE	652600 305550	TG50NW351	25.5	GREAT YARMOUTH FLOOD DEFENCES 11
178A Y	114.0	NW	651910 306150	TG50NW1083	5.0	TRAVIS PERKINS GREAT YARMOUTH WS104
179	115.0	S	652025 305555	TG50NW384	14.7	A12 GORLESTON RELIEF RD GT YAR S BY PASS
180	118.0	N	651990 306200	TG50NW227	11.5	GT YAR BOR CNCL A12 WESTERN BY PASS
181A Y	118.0	NW	651890 306140	TG50NW1077	23.0	TRAVIS PERKINS GREAT YARMOUTH 102
182	122.0	N	652520 306500	TG50NW786	20.0	SOUTHGATES RD GT YARMOUTH 3

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
183	142.0	E	652700 305720	TG50NW568	-1.0	FISH QUAY TRIAL PIT PS20
184	148.0	S	652020 305522	TG50NW30	6.2	A47/A12 GORLESTON RELIEF ROAD
185	161.0	NW	651938 306226	TG50NW431	13.0	A12 GT YAR W BY PASS DOT REPORT
186A Z	161.0	S	651790 305510	TG50NW971	7.7	HARFREYS FARM GT YARMOUTH 13
187A Z	163.0	S	651840 305500	TG50NW959	9.0	HARFREYS FARM GT YARMOUTH 1
188B A	167.0	NW	652400 306500	TG50NW895	2.0	INSPECTORATE QUAY GT YAR' 2
189B A	167.0	NW	652400 306500	TG50NW896	25.0	INSPECTORATE QUAY GT YAR' 2A
190B A	167.0	NW	652400 306500	TG50NW894	25.0	INSPECTORATE QUAY GT YAR' 1
191	173.0	W	651670 306020	TG50NW686	1.2	BGS AUGR HL 161 GAPTON MARSHES
192	183.0	N	652500 306560	TG50NW789	25.7	SOUTHGATES RD GT YARMOUTH 1
193	187.0	S	652028 305483	TG50NW383	12.3	A12 GORLESTON RELIEF RD GT YAR S BY PASS CPT 129
194B D	191.0	E	652750 305630	TG50NW567	-1.0	EAST QUAY TRIAL PIT PS19
195	197.0	S	652800 305690	TG50NW283	-1.0	GT YAR BOR CNCL FISH WHARF B14
196B C	203.0	NW	652090 306340	TG50NW176	9.15	GT YAR BOROUGH COUNCIL SEWERAGE WORKS 8
197B B	212.0	N	652520 306590	TG50NW785	17.3	SOUTHGATES RD GT YARMOUTH 2
198B B	212.0	N	652510 306590	TG50NW784	20.0	SOUTHGATES RD GT YARMOUTH 1
199	214.0	NE	652760 306560	TG50NW196	6.1	GT YAR BOR CNCL MAVERS RD PUMPING STN 23
200B C	215.0	NW	652100 306360	TG50NW213	15.4	GT YAR COUNCIL SUFFOLK RD SEWERAGE 6
201B E	217.0	SE	652720 305510	TG50NW991	25.0	GREAT YARMOUTH SALMON ROAD 4
202B D	224.0	E	652780 305610	TG50NW993	10.5	GREAT YARMOUTH SALMON ROAD 5
203B E	224.0	SE	652730 305510	TG50NW992	25.25	GREAT YARMOUTH SALMON ROAD 4A
204B F	232.0	S	652028 305438	TG50NW388	1.5	A12/A47 GORLESTON RELIEF RD REPORT
205B B	232.0	N	652510 306610	TG50NW790	3.0	SOUTHGATES RD GT YARMOUTH 2
206B B	232.0	N	652510 306610	TG50NW791	26.0	SOUTHGATES RD GT YARMOUTH 2A
207B F	236.0	S	652018 305434	TG50NW37	0.6	A47/A12 GORLESTON RELIEF ROAD
208B F	236.0	S	652030 305434	TG50NW373	0.8	A12 GORLESTON RELIEF RD GT YAR S BY PASS
209	237.0	NW	652040 306350	TG50NW214	15.4	GT YAR COUNCIL SUFFOLK RD SEWERAGE 7



ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
210	237.0	S	651980 305430	TG50NW961	8.0	HARFREYS FARM GT YARMOUTH 3
211	239.0	N	652610 306620	TG50NW274	-1.0	GT YAR BOR CNCL QUEENS RD B18
212B F	239.0	S	652032 305431	TG50NW387	1.8	A12/A47 GORLESTON RELIEF RD REPORT
213B F	240.0	S	652020 305430	TG50NW224	6.4	GT YAR BOR CNCL A12 WESTERN BY PASS DKM2
214B F	240.0	S	652018 305429	TG50NW38	10.0	A47/A12 GORLESTON RELIEF ROAD
215B F	241.0	S	652030 305429	TG50NW401	1.8	A12/A47 GORLESTON RELIEF RD REPORT
216B F	246.0	S	652068 305427	TG50NW389	8.05	A12/A47 GORLESTON RELIEF RD REPORT
217B F	249.0	S	652035 305422	TG50NW372	4.3	A12 GORLESTON RELIEF RD GT YAR S BY PASS

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.

#1Q: scans.bgs.ac.uk/sobi\_scans/boreholes/519577  
 #2A: scans.bgs.ac.uk/sobi\_scans/boreholes/519575  
 #3: scans.bgs.ac.uk/sobi\_scans/boreholes/519864  
 #4Al: scans.bgs.ac.uk/sobi\_scans/boreholes/520122  
 #5B: scans.bgs.ac.uk/sobi\_scans/boreholes/519696  
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 #85W: scans.bgs.ac.uk/sobi\_scans/boreholes/520465  
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 #87Y: scans.bgs.ac.uk/sobi\_scans/boreholes/519875  
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# 8 Estimated Background Soil Chemistry

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

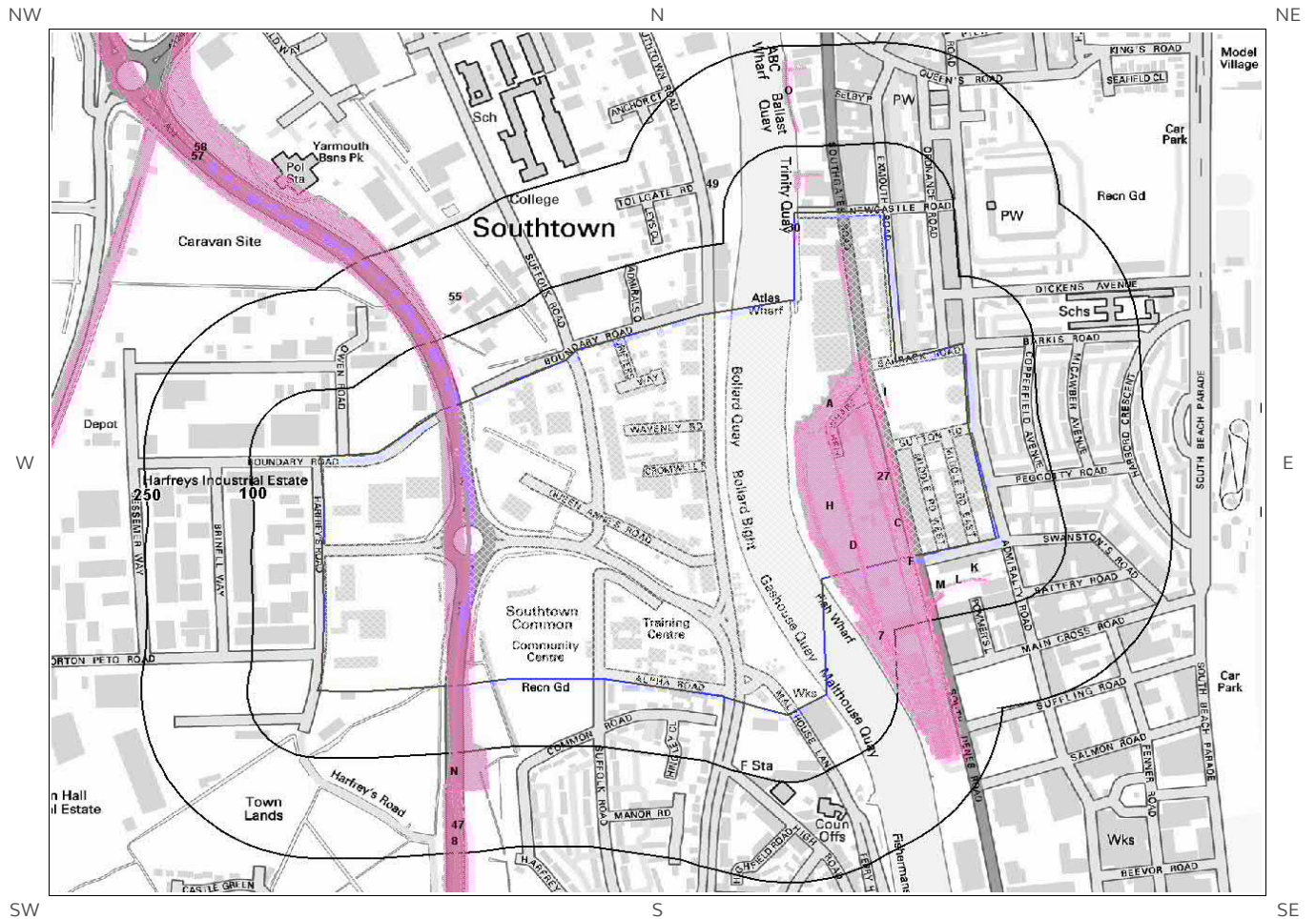
19

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight 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	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	20 - 40 mg/kg	<15 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	20 - 40 mg/kg	<15 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
3.0	W	RuralSoil	<15 mg/kg	<1.8 mg/kg	20 - 40 mg/kg	<15 mg/kg	<100 mg/kg
16.0	E	RuralSoil	<15 mg/kg	<1.8 mg/kg	20 - 40 mg/kg	<15 mg/kg	<100 mg/kg
48.0	E	RuralSoil	<15 mg/kg	<1.8 mg/kg	20 - 40 mg/kg	<15 mg/kg	<100 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.

# 9 Railways and Tunnels Map



**Railways and Tunnels Legend**

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	Underground or Partially Underground Railway / Subway System		Railway Track (OpenStreetMap)
	Site Outline		Railway Tunnel (OS Mapping)
	Abandoned or Dismantled Railway (OpenStreetMap)		High Speed 2
	Railway Track (OS Mapping)		High Speed 2 Revised Proposed Route
			Crossrail 1
			Railway and/or Tunnel Feature from Historical Mapping

# 9 Railways and Tunnels

## 9.1 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.*

## 9.2 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
1D	0	On Site	652582 305858	Railway Sidings	1946
2B	0	On Site	652582 305860	Railway Sidings	1904
3A	0	On Site	652564 306095	Railway Sidings	1978
4C	0	On Site	652661 305900	Railway Sidings	1946
5A	0	On Site	652564 306095	Railway Sidings	1952
6	0	On Site	652583 305858	Railway Sidings	1938

ID	Distance (m)	Direction	NGR	Details	Date
9E	0	On Site	652580 305840	Railway Sidings	1958
10F	0	On Site	652683 305838	Railway Sidings	1958
11B	0	On Site	652626 305950	Railway Sidings	1927
12C	0	On Site	652662 305924	Railway Sidings	1981
13D	0	On Site	652558 305882	Railway Sidings	1981
14H	0	On Site	652540 306032	Railway Sidings	1887
15G	0	On Site	652567 306085	Railway Sidings	1966
16E	0	On Site	652580 305840	Railway Sidings	1949
17E	0	On Site	652580 305840	Railway Sidings	1968
18E	0	On Site	652580 305839	Railway Sidings	1957
19E	0	On Site	652580 305839	Railway Sidings	1949
20E	0	On Site	652580 305839	Railway Sidings	1968
21F	0	On Site	652683 305838	Railway Sidings	1968
22F	0	On Site	652683 305837	Railway Sidings	1968
23F	0	On Site	652683 305837	Railway Sidings	1957
24F	0	On Site	652683 305838	Railway Sidings	1949
25F	0	On Site	652683 305837	Railway Sidings	1949
26G	0	On Site	652567 306085	Railway Sidings	1949
27	0	On Site	652641 305980	Railway Sidings	1905
28I	0	On Site	652643 306106	Railway Sidings	1949
29H	0	On Site	652585 305922	Railway Sidings	1883
30	0	On Site	652515 306351	Railway Sidings	1905
31	0	On Site	n/a	Railway	1946
32I	0	On Site	652643 306106	Railway Sidings	1963
33I	0	On Site	652643 306106	Railway Sidings	1949
34J	33	N	652516 306425	Railway Sidings	1928
35J	37	N	652521 306429	Railway Sidings	1949
36K	40	S	652771 305842	Railway Sidings	1958
37K	40	S	652771 305842	Railway Sidings	1949



ID	Distance (m)	Direction	NGR	Details	Date
38K	42	S	652772 305841	Railway Sidings	1949
39K	42	S	652772 305841	Railway Sidings	1957
40L	51	S	652777 305830	Railway Sidings	1958
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42K	52	S	652777 305829	Railway Sidings	1957
43K	52	S	652777 305829	Railway Sidings	1949
44M	54	S	652722 305817	Tramway Sidings	1949
45M	54	S	652718 305816	Railway Sidings	1957
7	67	E	652638 305740	Railway Sidings	1884
46N	97	S	652033 305537	Railway Sidings	1958
47	111	S	652044 305396	Railway Sidings	1927
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50	117	E	652706 305621	Railway Sidings	1905
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53O	122	N	652505 306558	Railway Sidings	1954
54O	127	N	652505 306558	Railway Sidings	1949
55	141	NW	652035 306248	Railway Sidings	1968
8	146	S	652035 305381	Railway Sidings	1938
56	163	N	652500 306574	Railway Sidings	1928
57	235	N	n/a	Railway	1906
58	243	N	n/a	Railway	1906

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

### 9.3 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? Yes

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

Distance (m)	Direction	Status
0	On Site	Abandoned
0	On Site	Abandoned
0	On Site	Dismantled

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.*

### 9.4 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? No

Database searched and no data found.

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.*

### 9.5 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? No

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.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

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Website: <http://www.peterbrett.com/home>

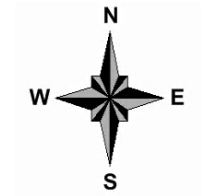
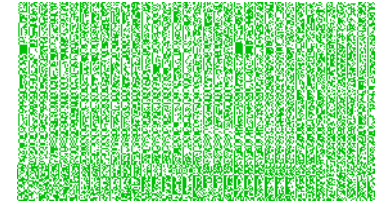
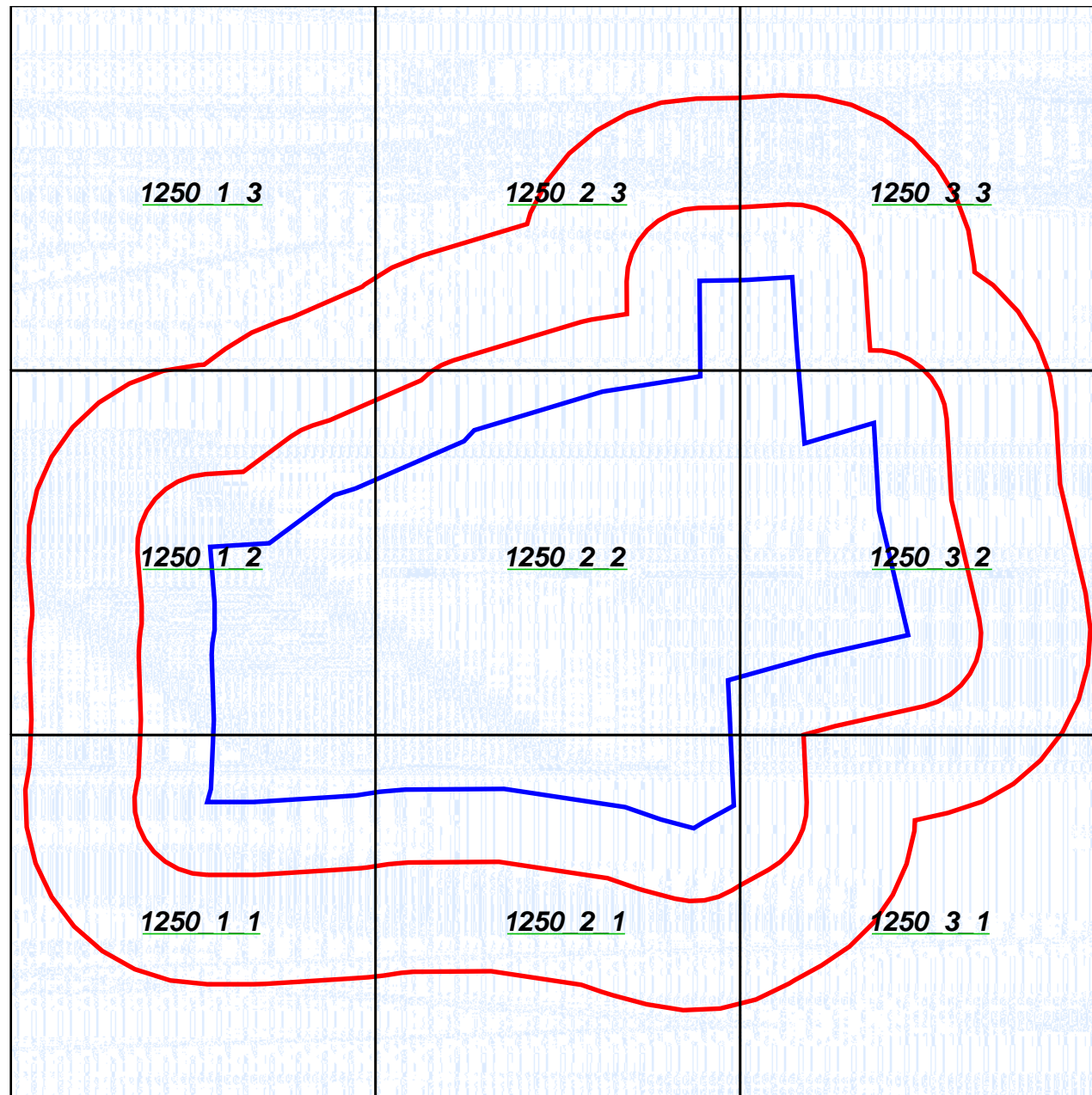


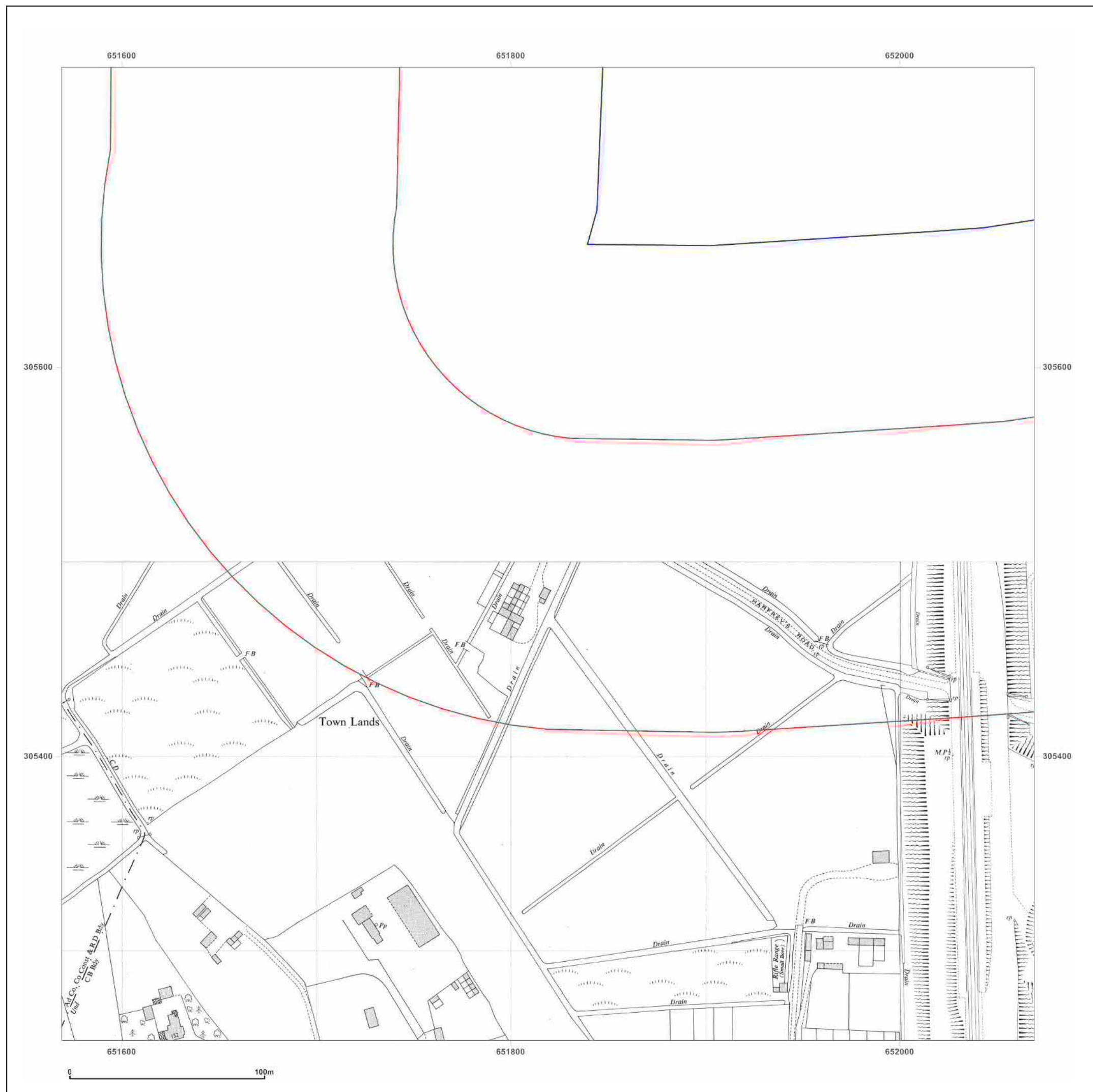
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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 305504

Map Name: National Grid  
Map date: 1953-1955  
Scale: 1:1,250  
Printed at: 1:2,000



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Revised 1955  
Edition N/A  
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Surveyed 1949  
Revised 1953  
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Production date: 03 July 2017

To view map legend click here [Legend](#)

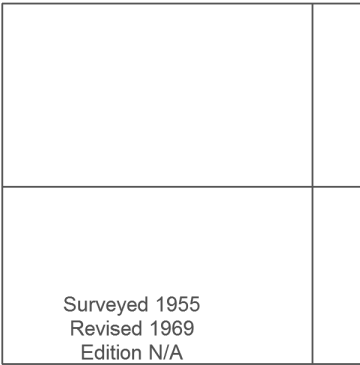




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Grid Ref: 651819, 305504

Map Name: National Grid  
Map date: 1967-1970  
Scale: 1:1,250  
Printed at: 1:2,000



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Surveyed 1967  
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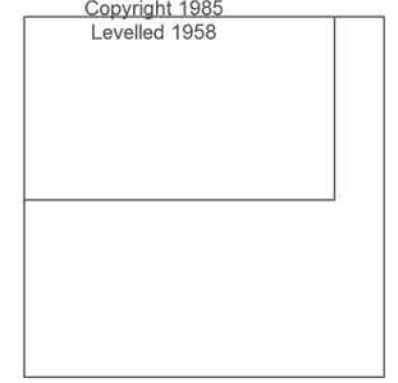
Site Details:

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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 305504

Map Name: National Grid  
Map date: 1985  
Scale: 1:1,250  
Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 305504

Map Name: National Grid  
Map date: 1990-1994  
Scale: 1:1,250  
Printed at: 1:2,000



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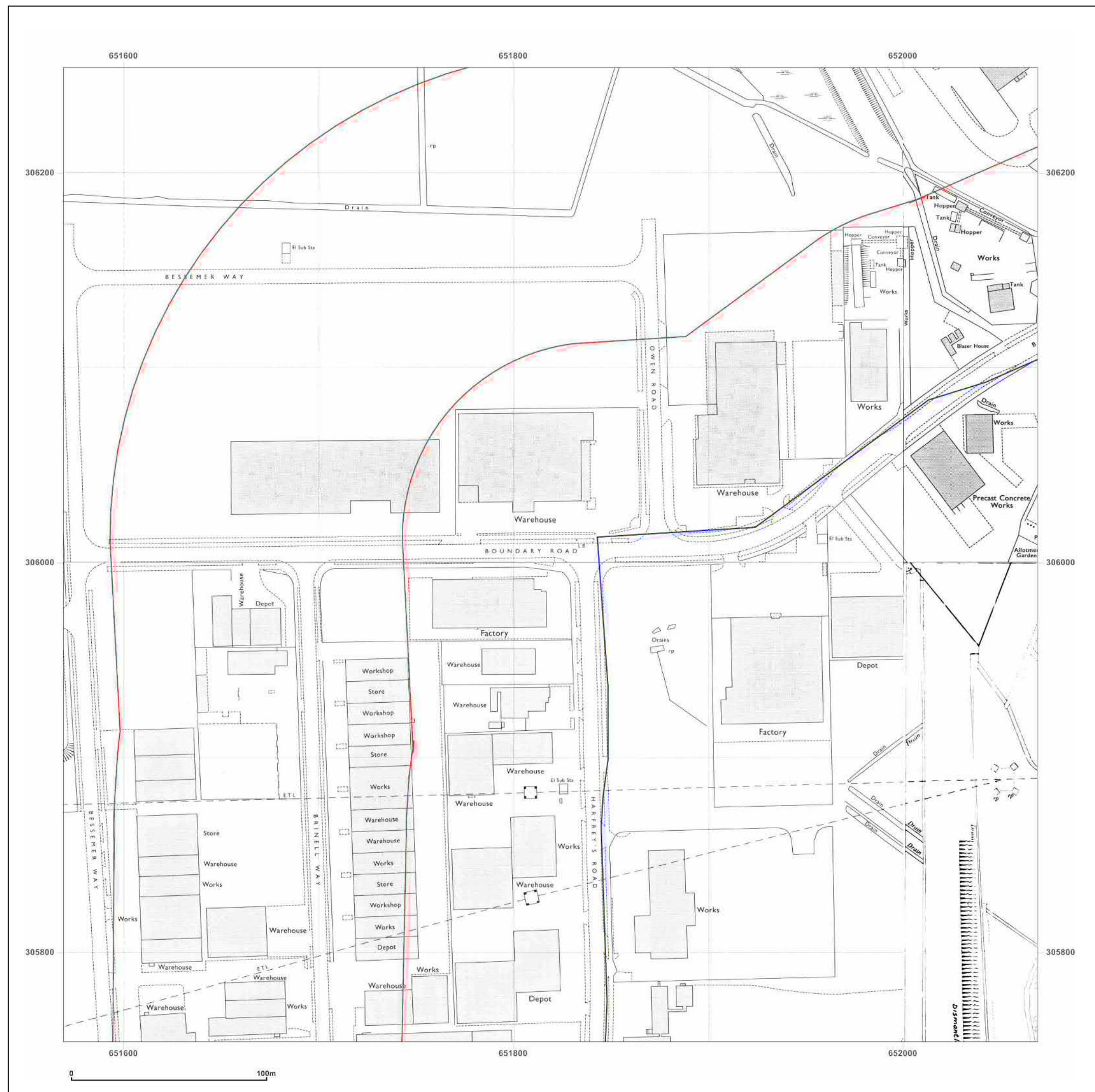
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 306004

Map Name: National Grid  
Map date: 1975-1978  
Scale: 1:1,250  
Printed at: 1:2,000



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Surveyed 1978 Revised 1978 Edition N/A Copyright 1978 Levelled 1958	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 306004

Map Name: National Grid  
Map date: 1985-1990  
Scale: 1:1,250  
Printed at: 1:2,000



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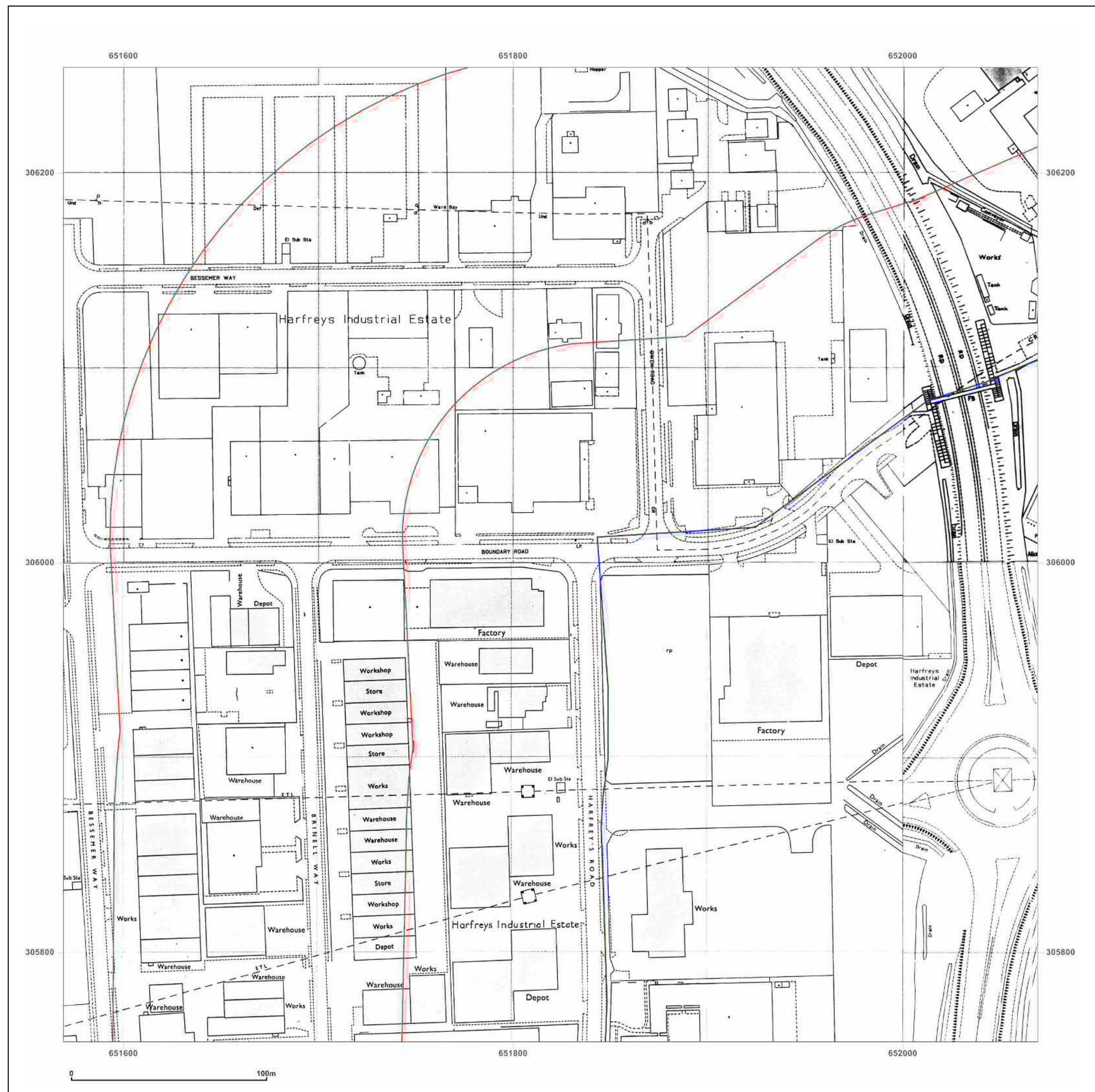
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**Site Details:**

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 651819, 306004

**Map Name:** National Grid  
**Map date:** 1985-1994  
**Scale:** 1:1,250  
**Printed at:** 1:2,000



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<p>Surveyed 1958  Revised 1985  Edition N/A  Copyright 1985  Levelled 1958</p>	<p>Surveyed N/A  Revised N/A  Edition N/A  Copyright 1994  Levelled N/A</p>



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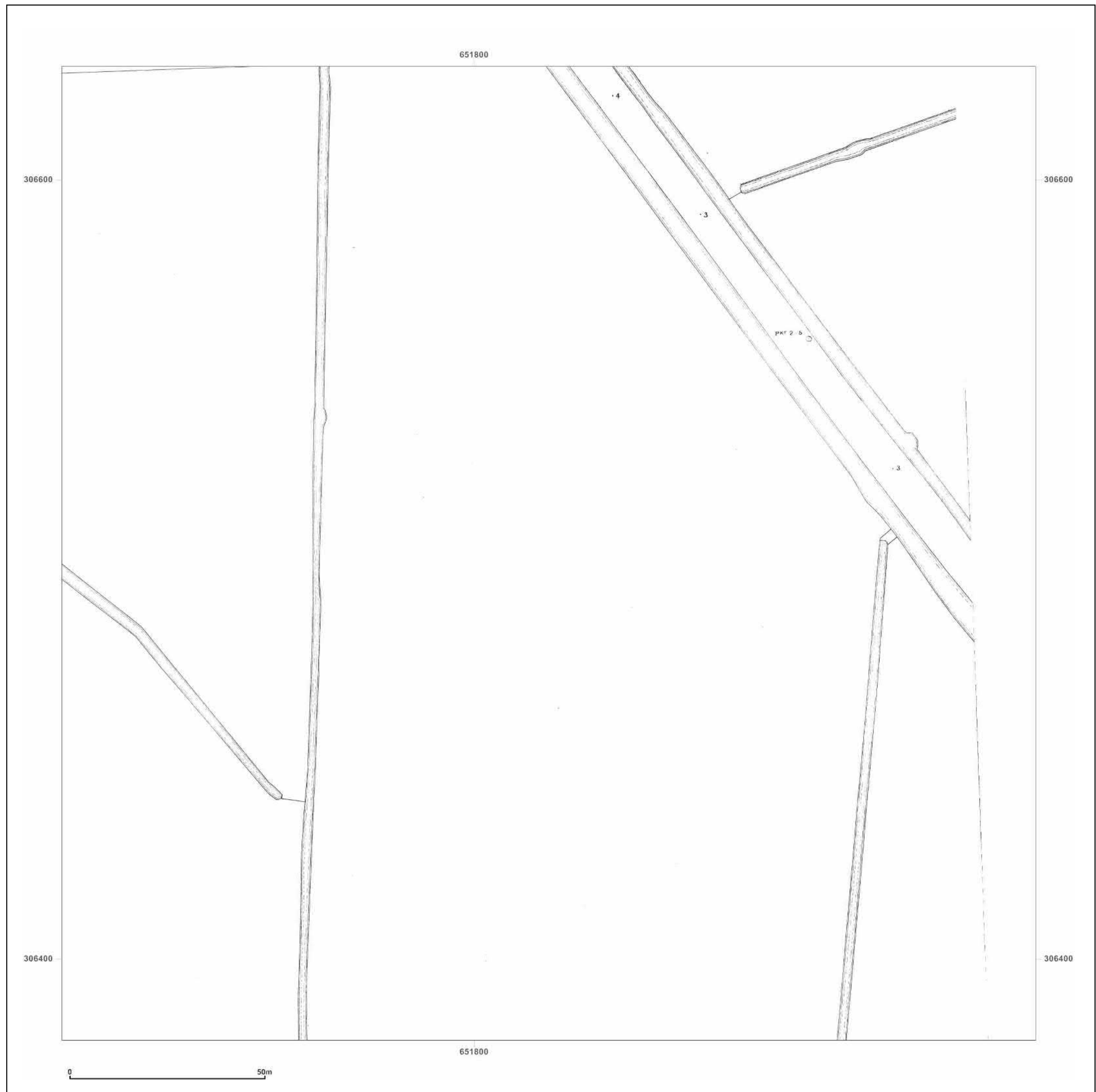


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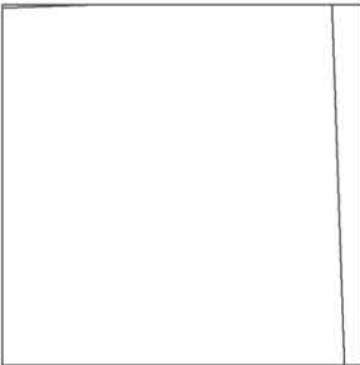
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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 306504

Map Name: County Series Town Plan  
Map date: 1884-1885  
Scale: 1:500  
Printed at: 1:1,000



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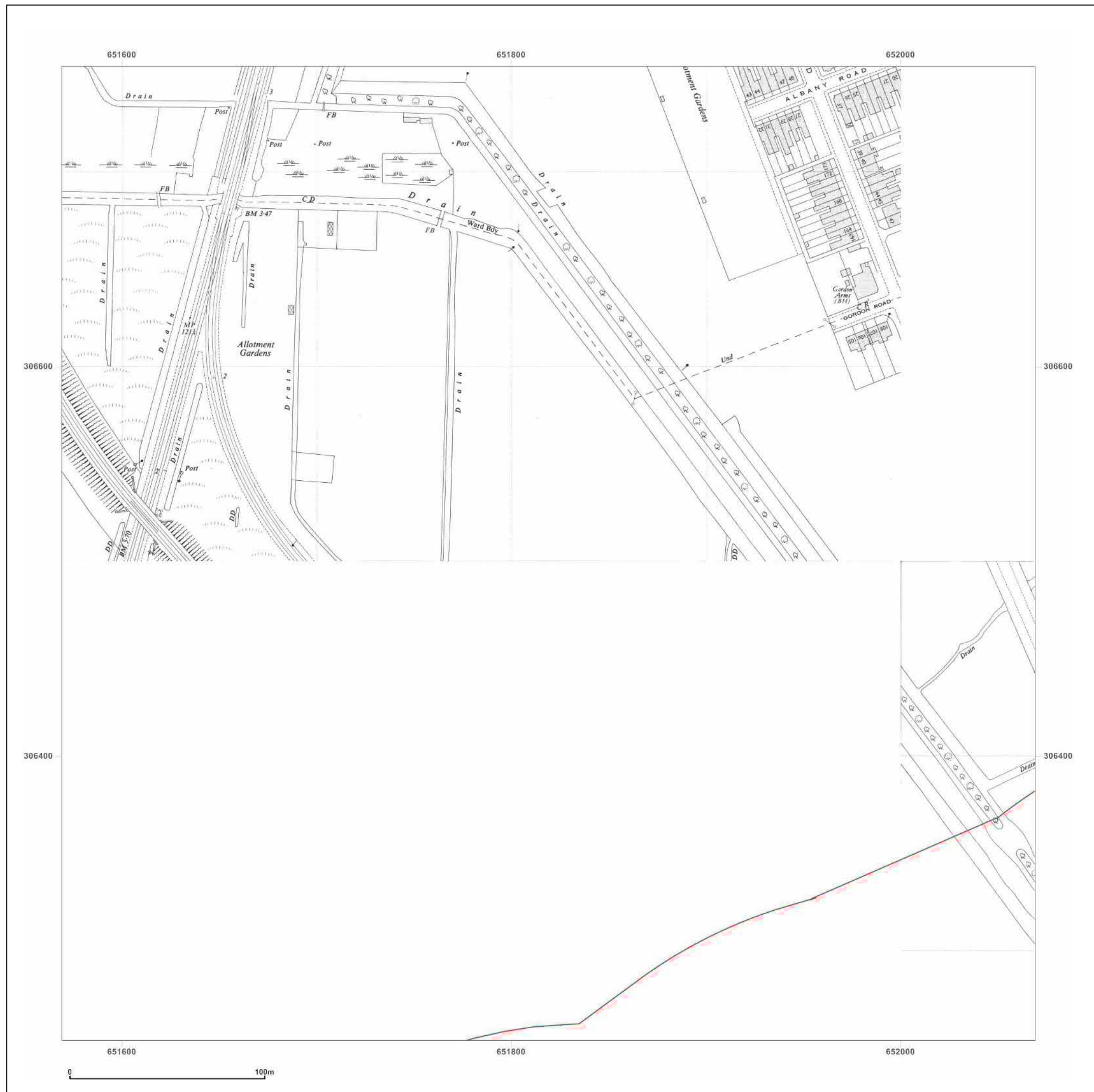
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 306504

Map Name: National Grid  
Map date: 1951  
Scale: 1:1,250  
Printed at: 1:2,000



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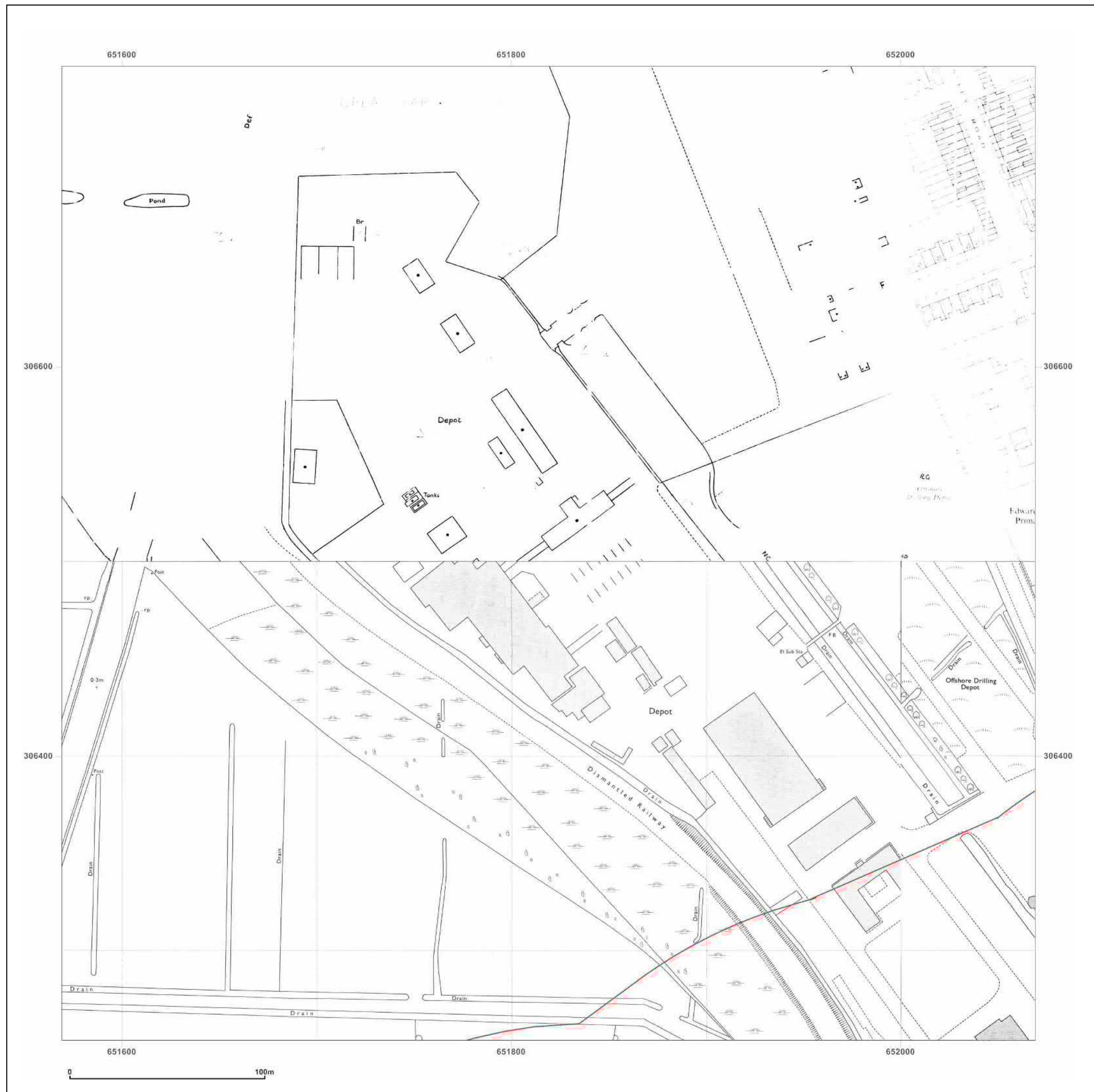
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 306504

Map Name: National Grid  
Map date: 1975-1978  
Scale: 1:1,250  
Printed at: 1:2,000



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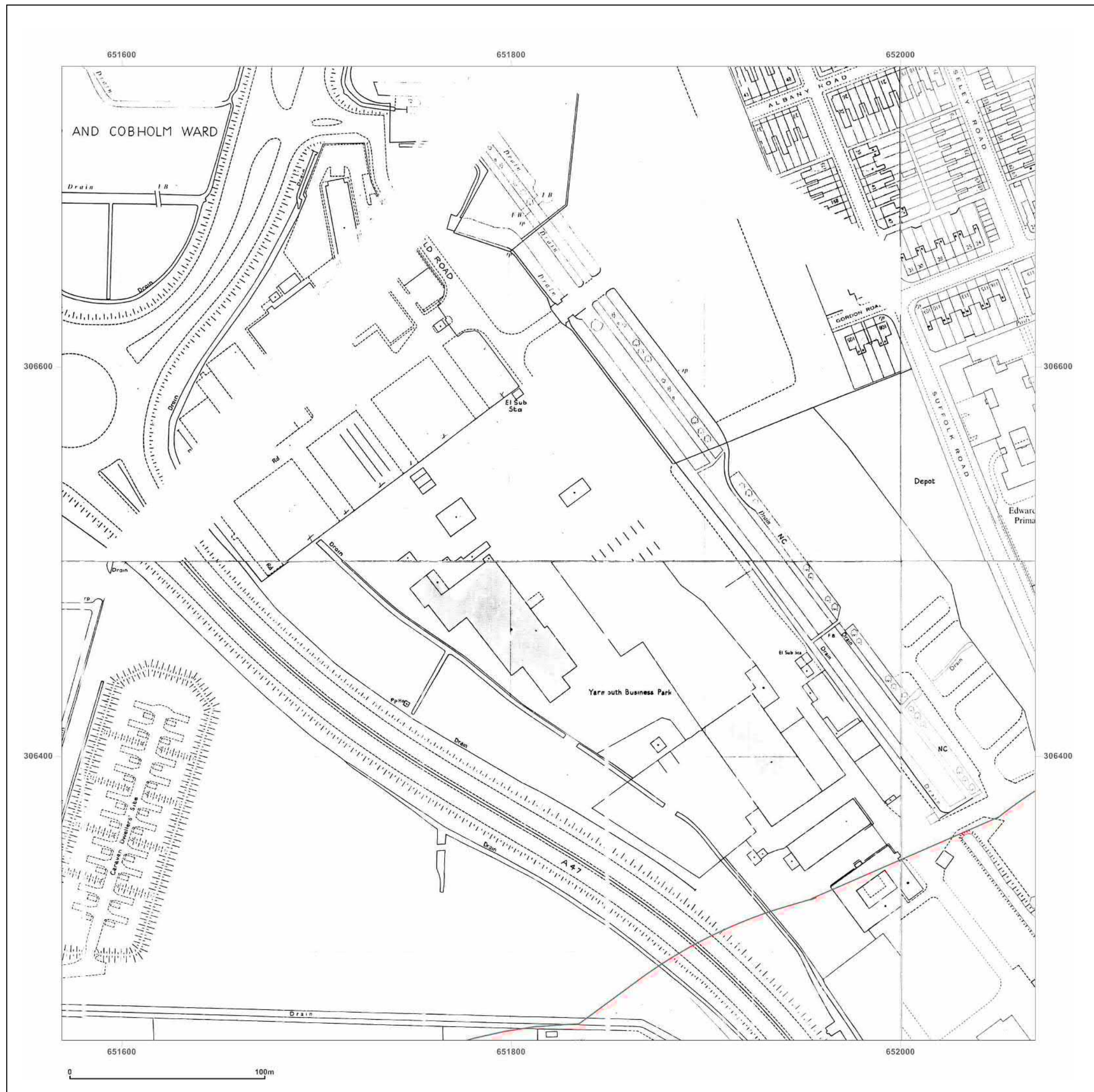
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Site Details:

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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 306504

Map Name: National Grid  
Map date: 1986-1990  
Scale: 1:1,250  
Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 651819, 306504

Map Name: National Grid  
Map date: 1994  
Scale: 1:1,250  
Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 305504

Map Name: County Series Town Plan

Map date: 1885

Scale: 1:500

Printed at: 1:1,000



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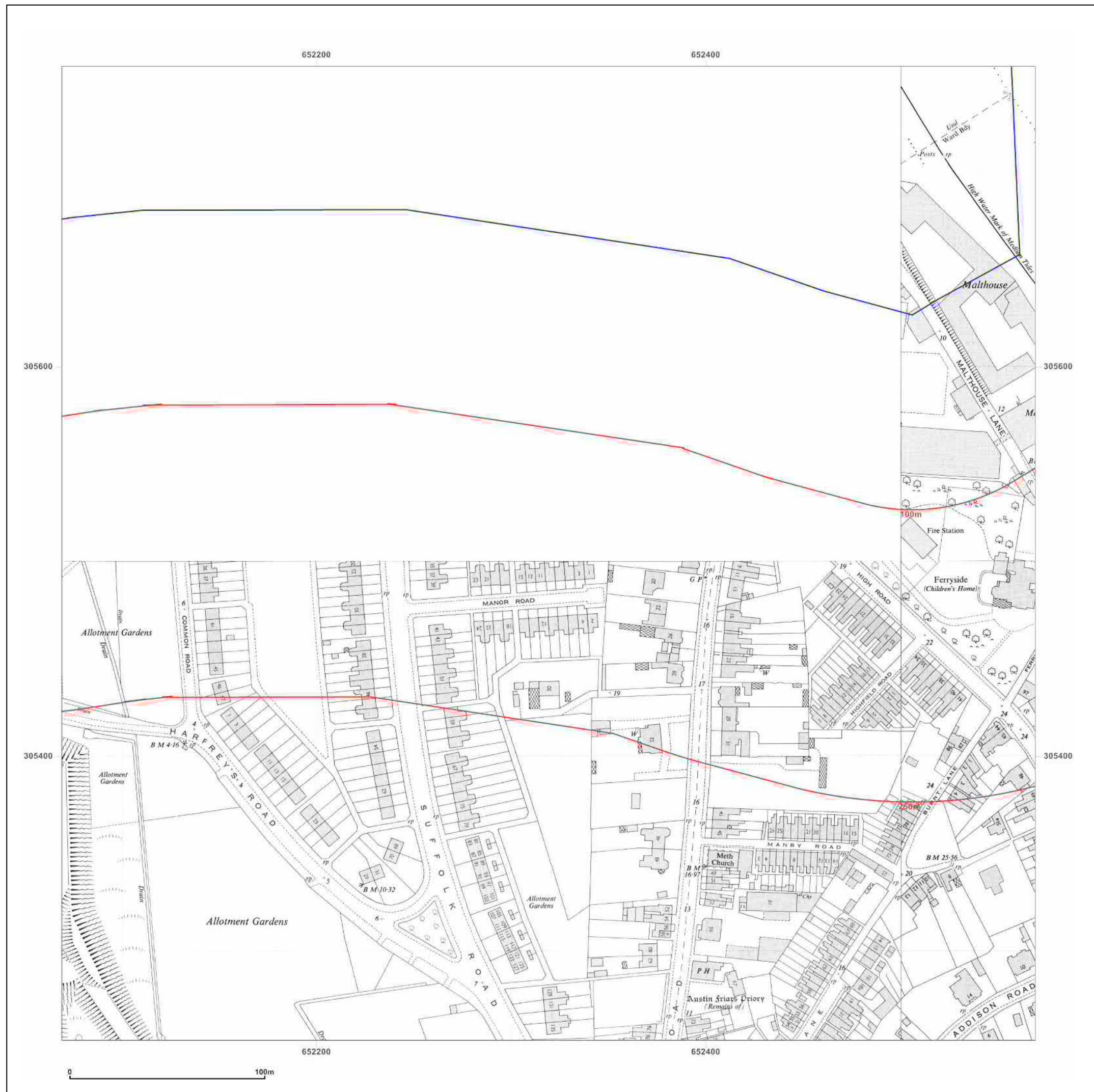
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 305504

Map Name: National Grid  
Map date: 1953-1957  
Scale: 1:1,250  
Printed at: 1:2,000



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Surveyed 1949 Revised 1953 Edition N/A Copyright N/A Levelled 1946	Surveyed 1949 Revised 1957 Edition N/A Copyright N/A Levelled 1946



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#### Site Details:

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652319, 305504

**Map Name:** National Grid

**Map date:** 1967-1968

**Scale:** 1:1,250

**Printed at:** 1:2,000



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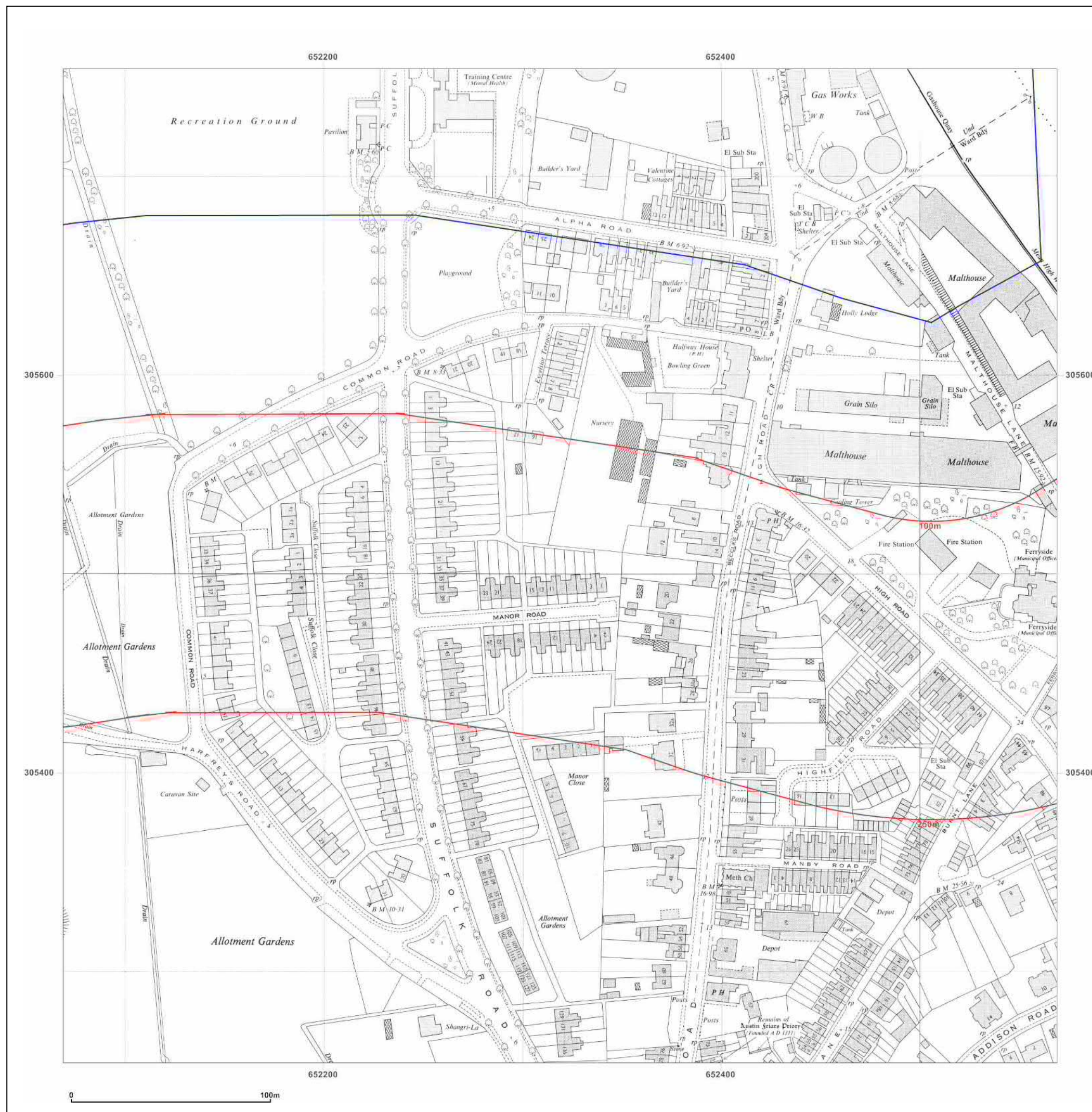


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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 305504

Map Name: National Grid

Map date: 1975-1977

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A  
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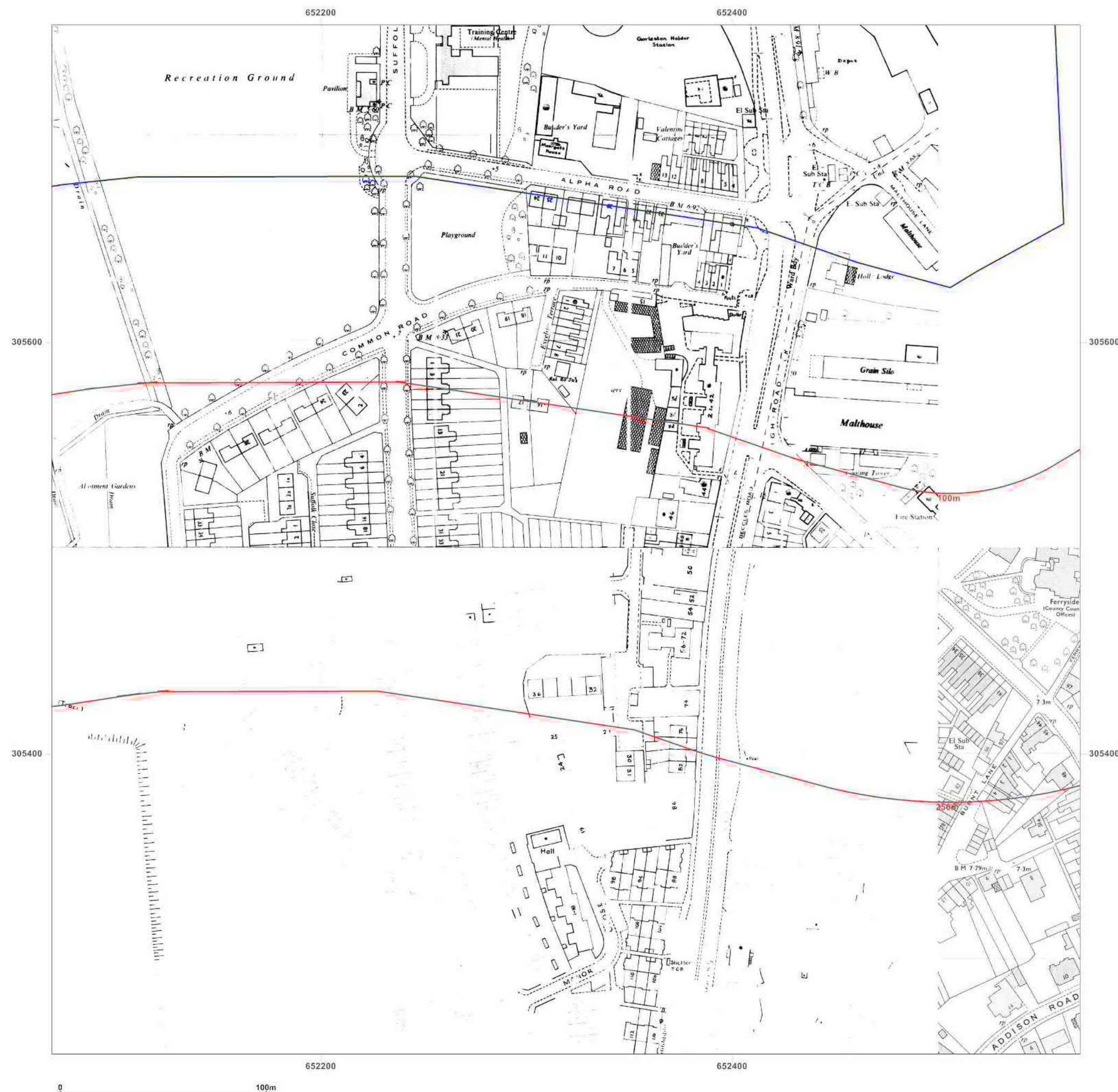


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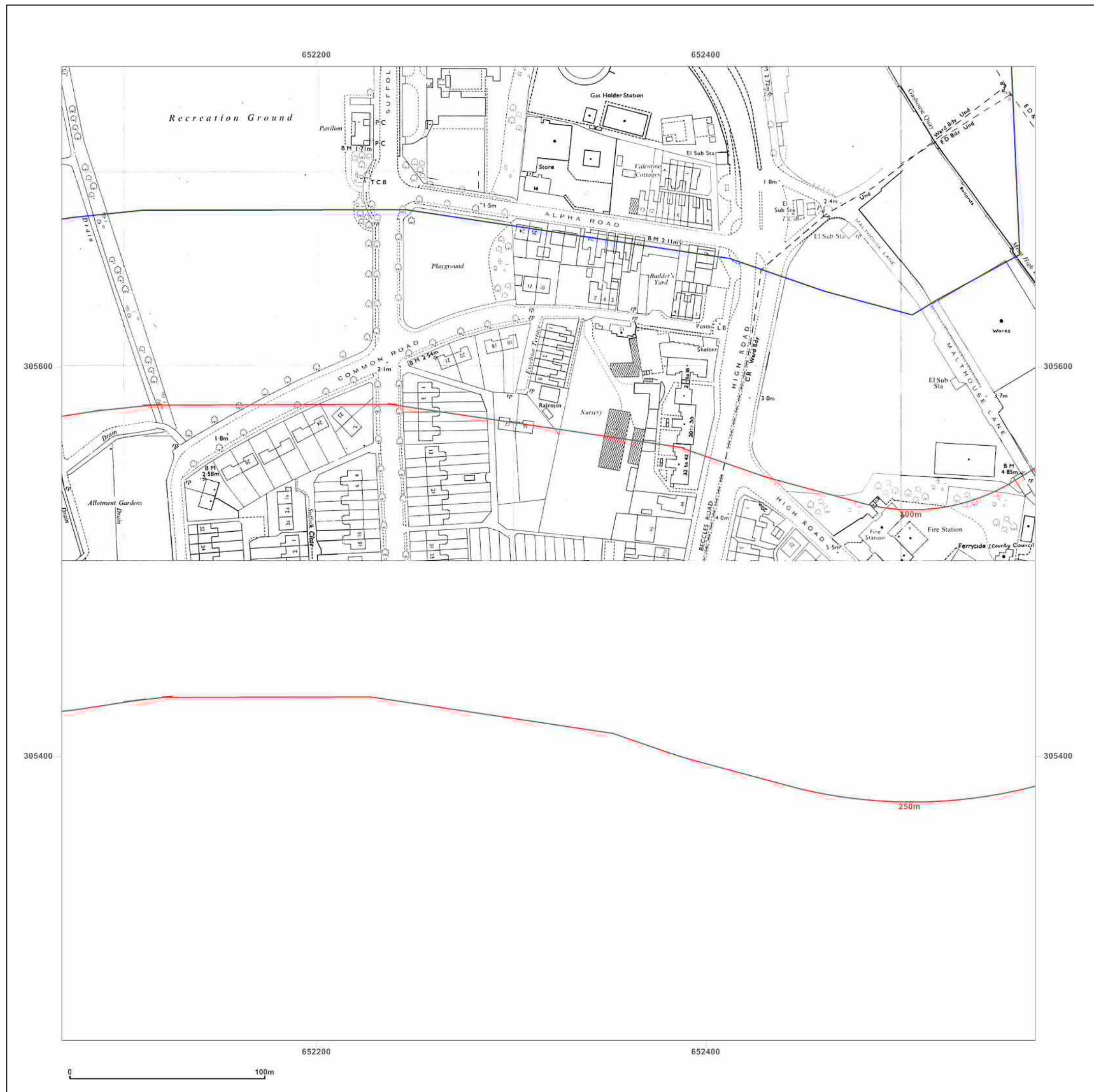
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Site Details:

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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 305504

Map Name: National Grid  
Map date: 1984-1986  
Scale: 1:1,250  
Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 305504

Map Name: National Grid

Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A  
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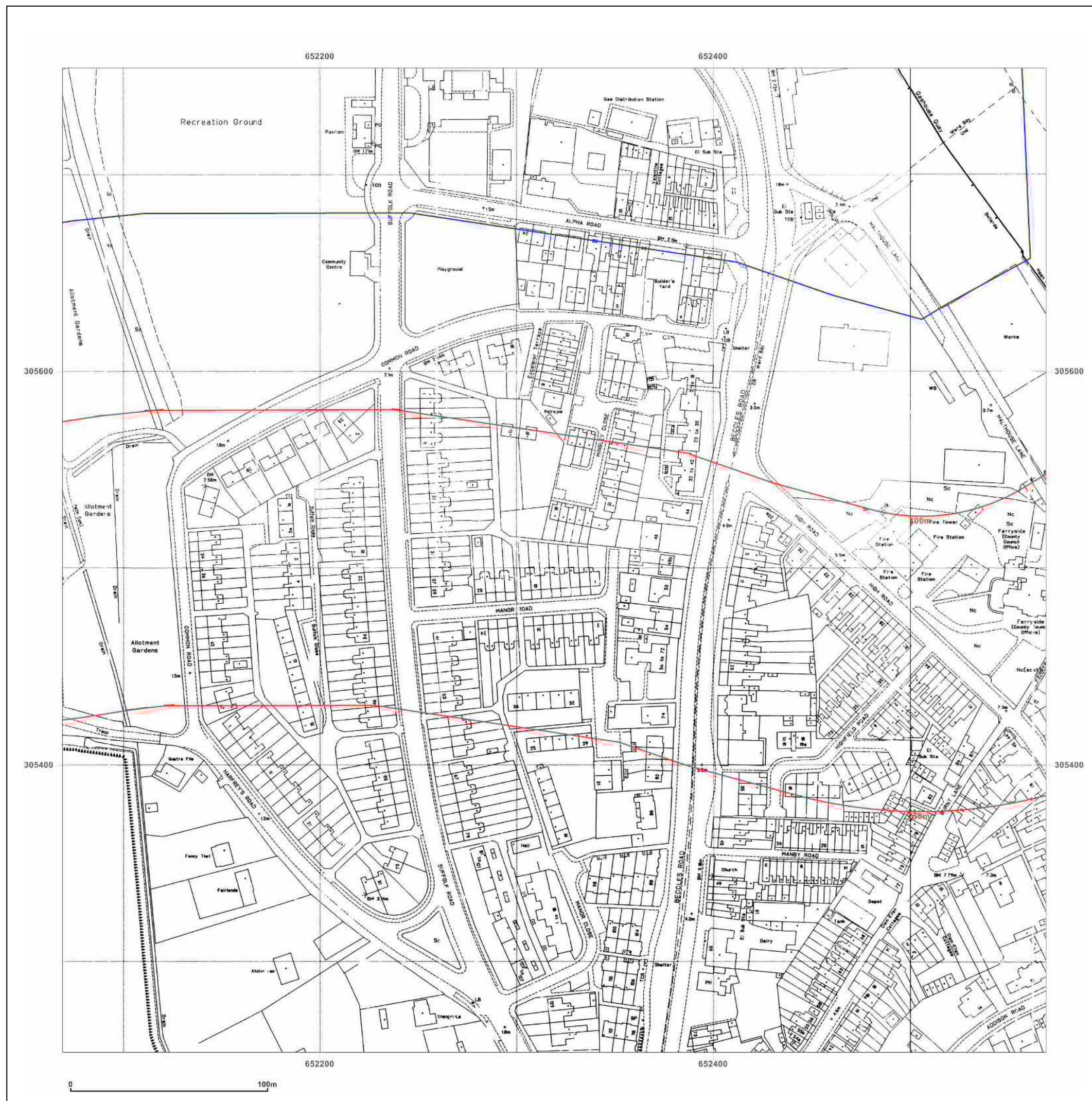


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Site Details:

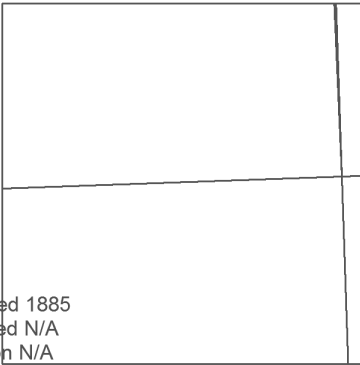
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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306004

Map Name: County Series Town Plan  
Map date: 1885  
Scale: 1:500  
Printed at: 1:1,000



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Edition N/A  
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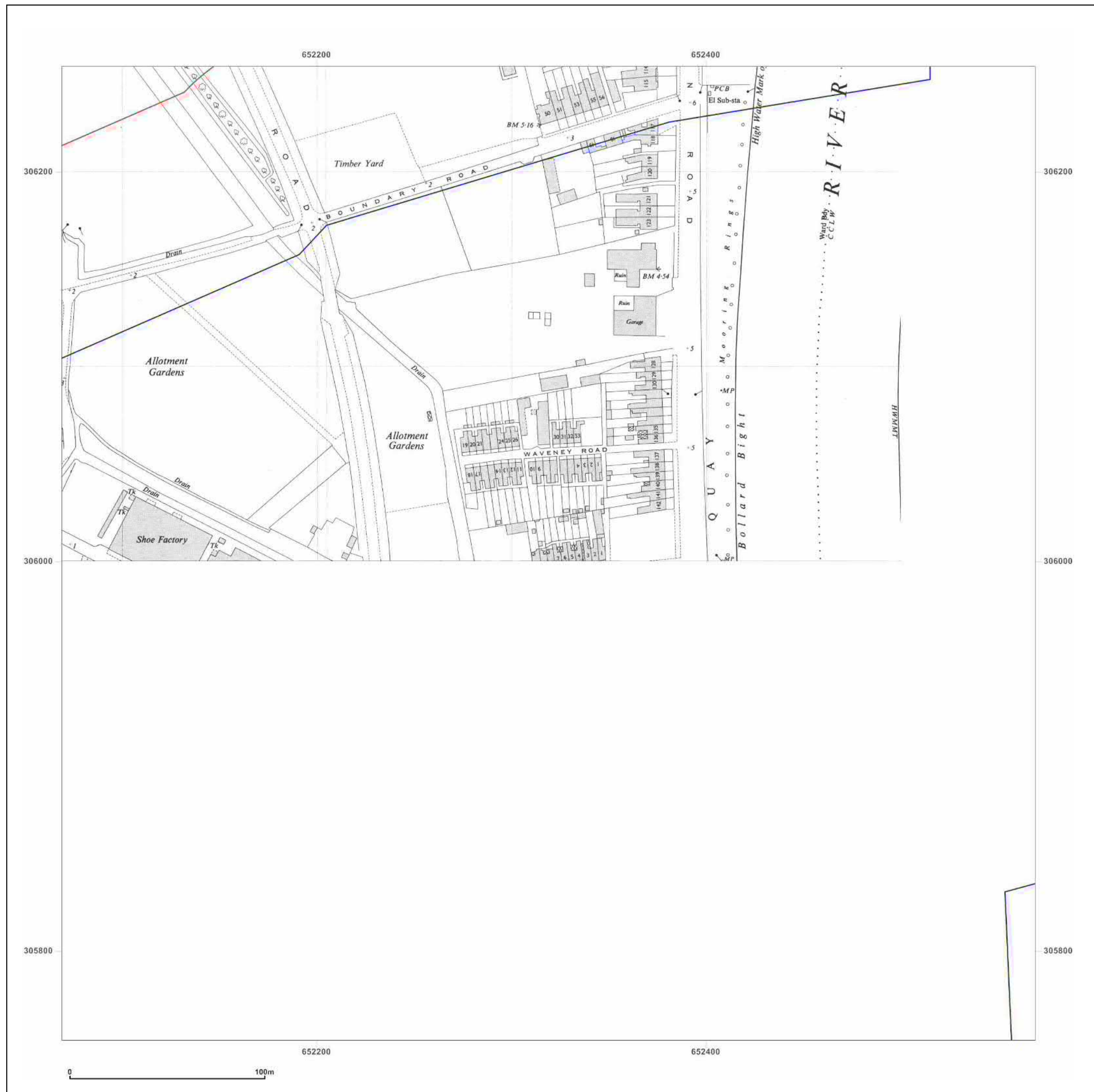
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306004

Map Name: National Grid  
Map date: 1951  
Scale: 1:1,250  
Printed at: 1:2,000



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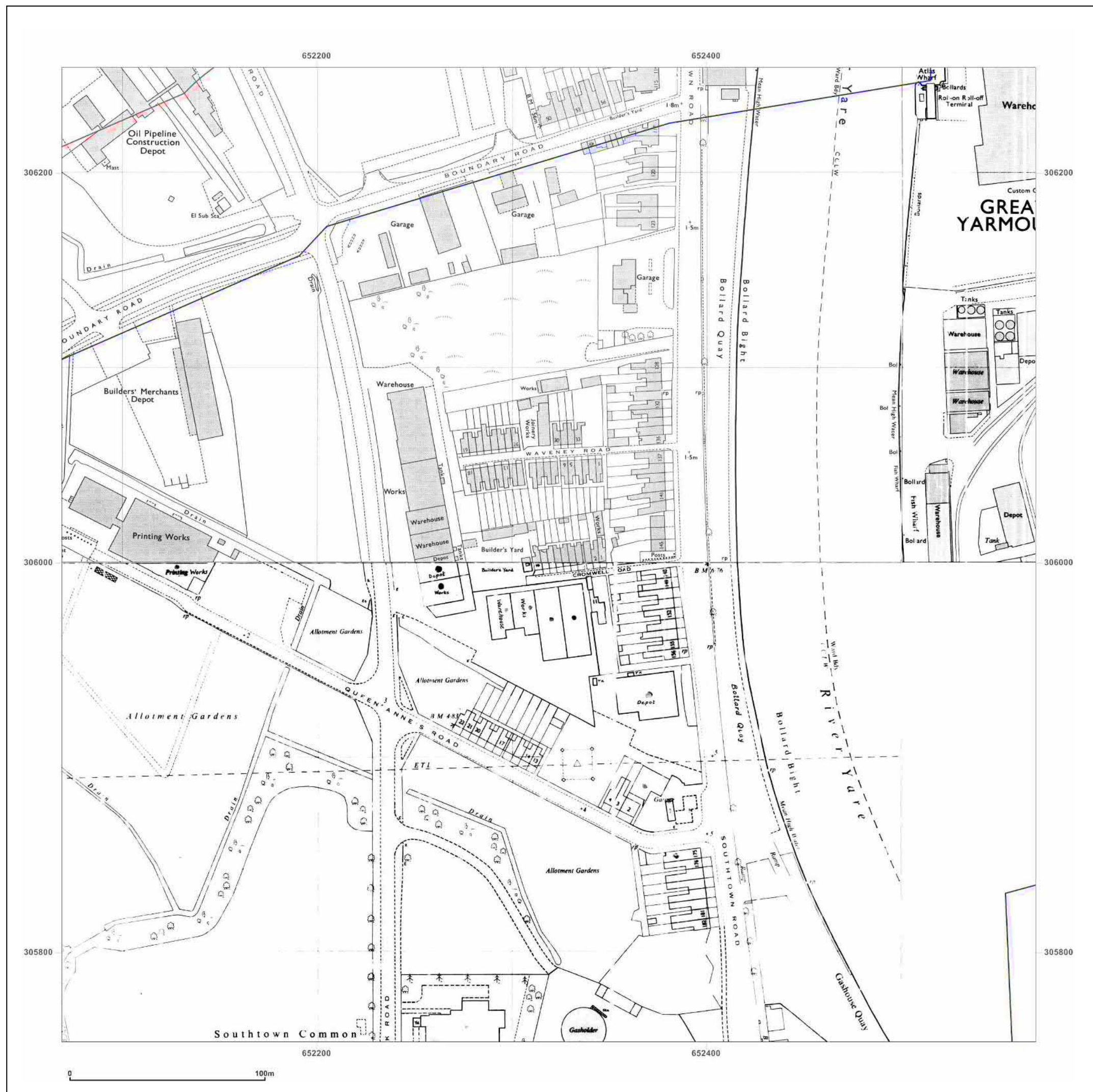
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306004

Map Name: National Grid  
Map date: 1970-1975  
Scale: 1:1,250  
Printed at: 1:2,000



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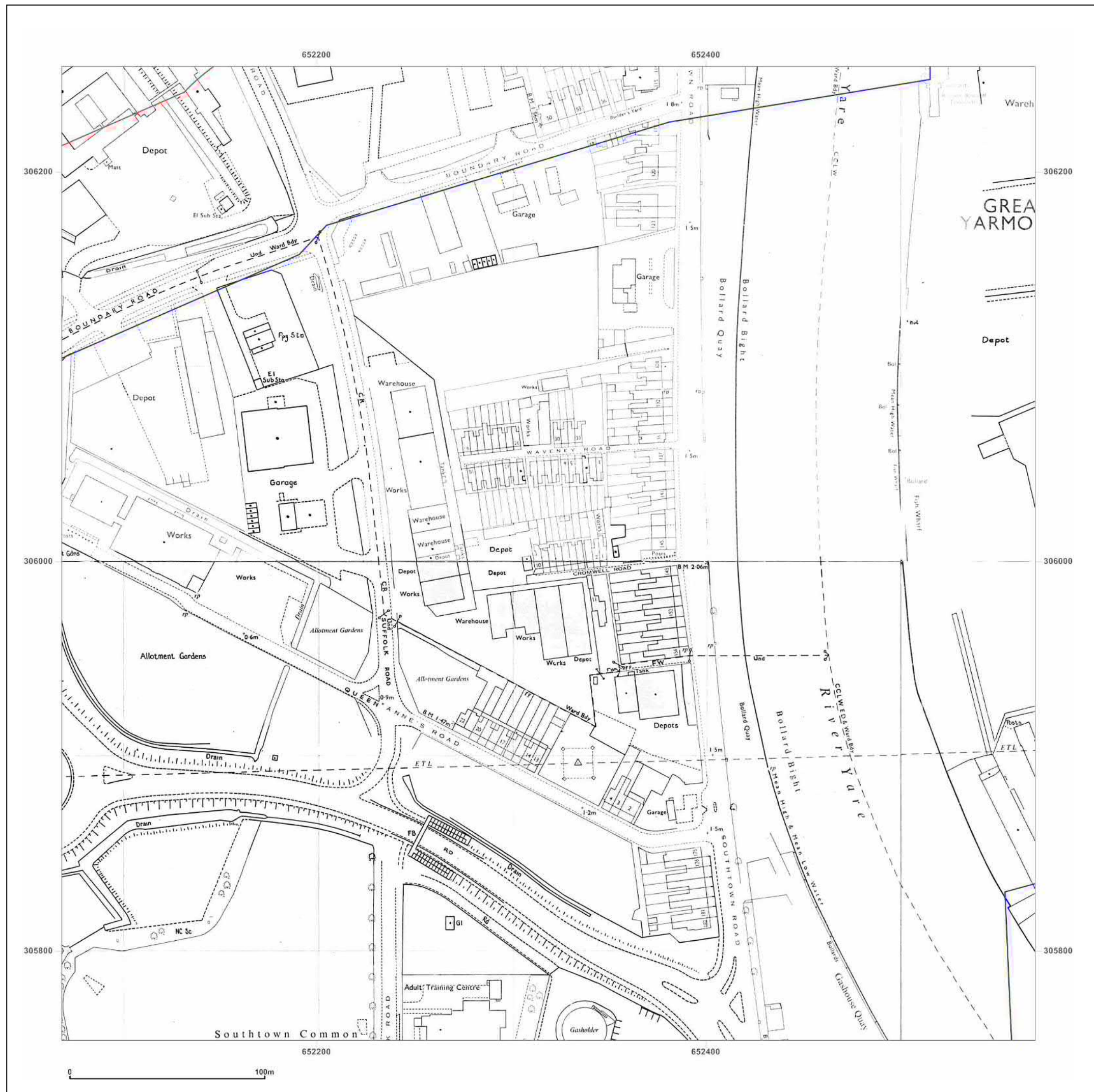
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306004

Map Name: National Grid  
Map date: 1984-1986  
Scale: 1:1,250  
Printed at: 1:2,000



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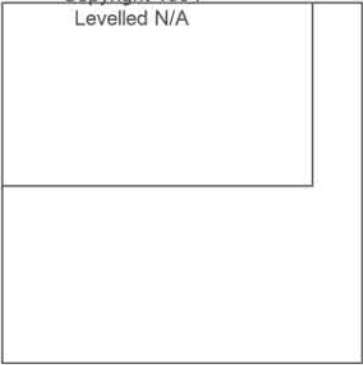
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Map Name: National Grid  
Map date: 1994  
Scale: 1:1,250  
Printed at: 1:2,000



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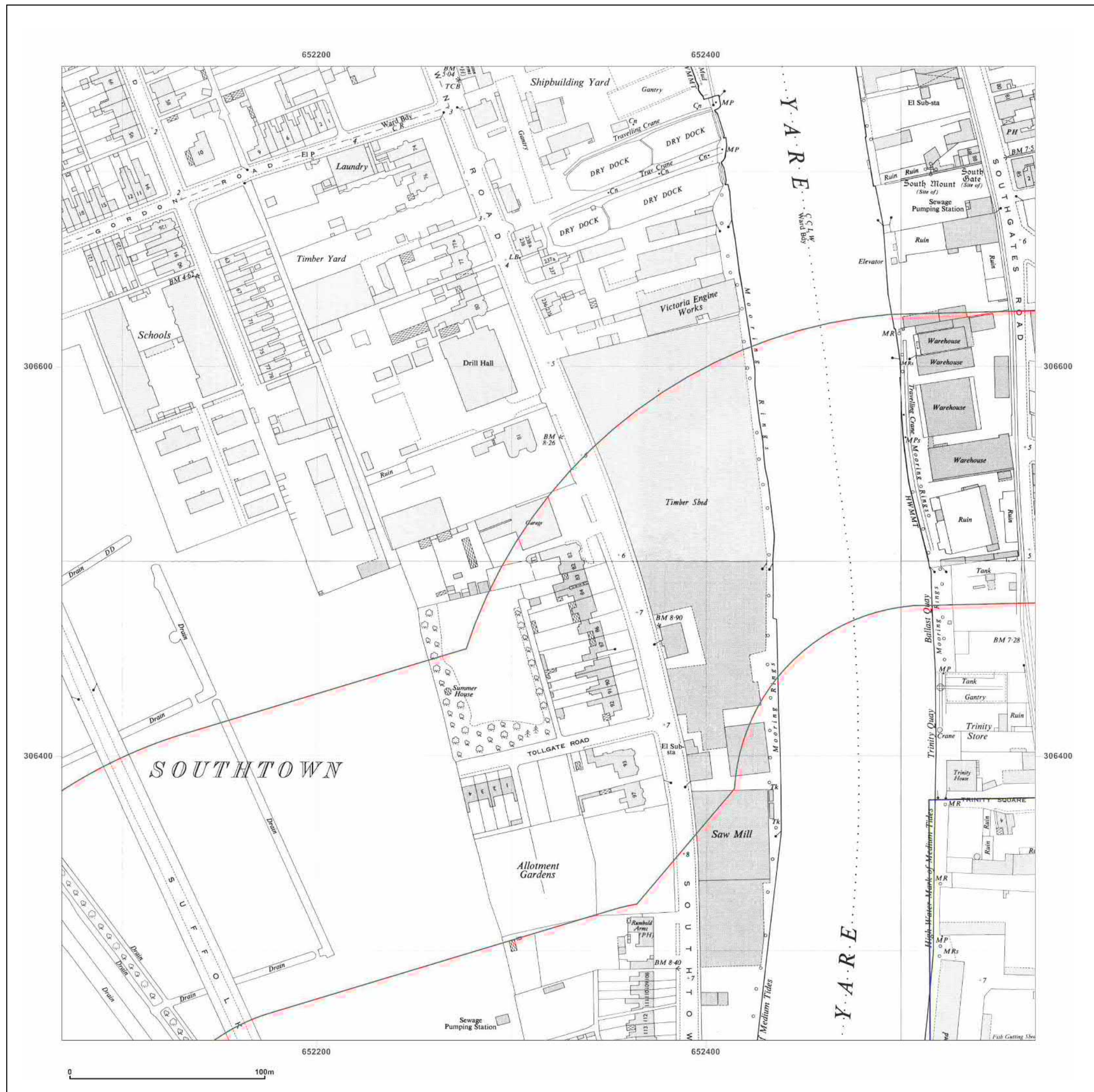
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306504

Map Name: National Grid  
Map date: 1949  
Scale: 1:1,250  
Printed at: 1:2,000



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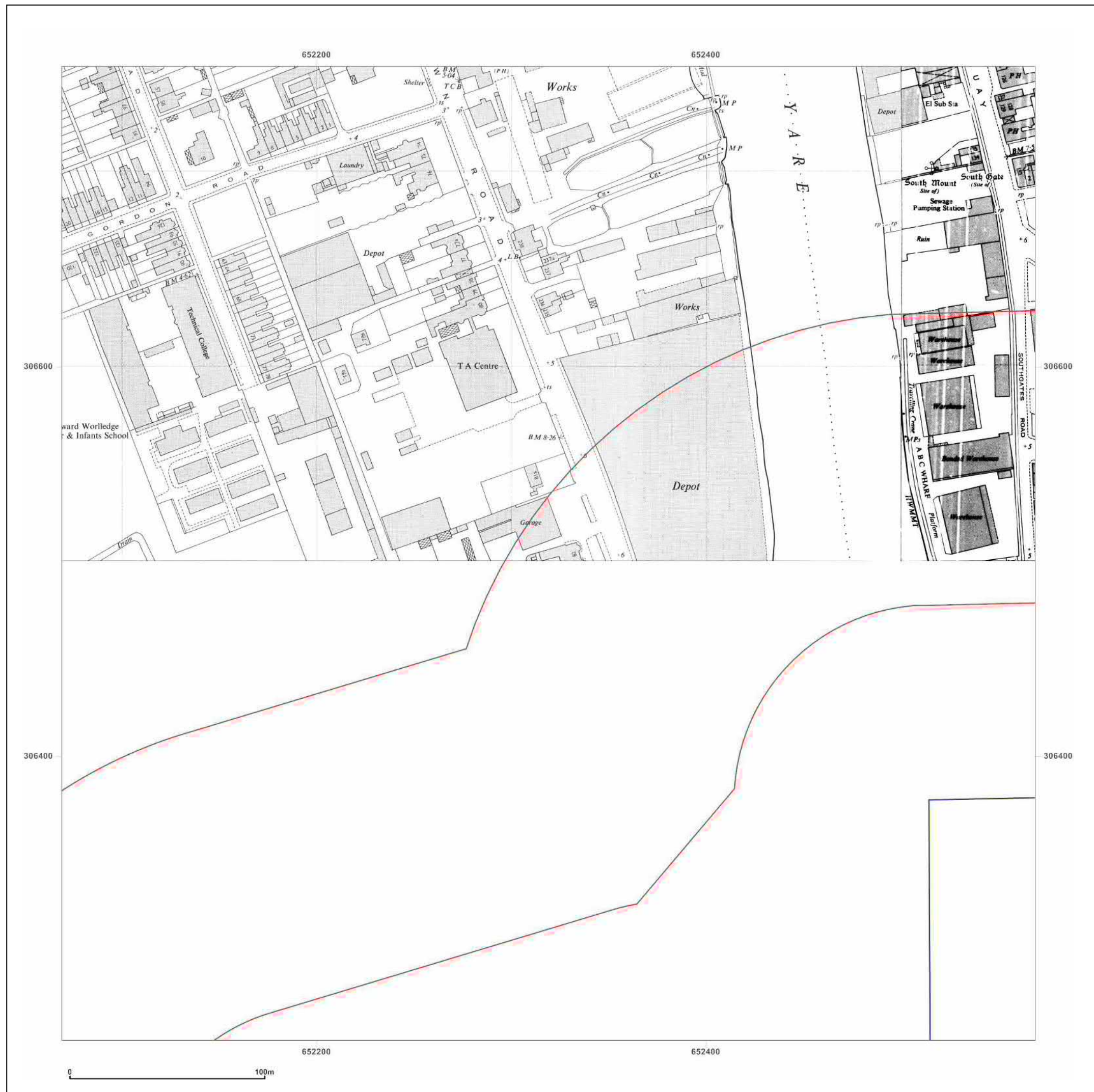
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306504

Map Name: National Grid  
Map date: 1955-1957  
Scale: 1:1,250  
Printed at: 1:2,000



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# Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306504

Map Name: National Grid

Map date: 1966-1968

Scale: 1:1,250

Printed at: 1:2,000



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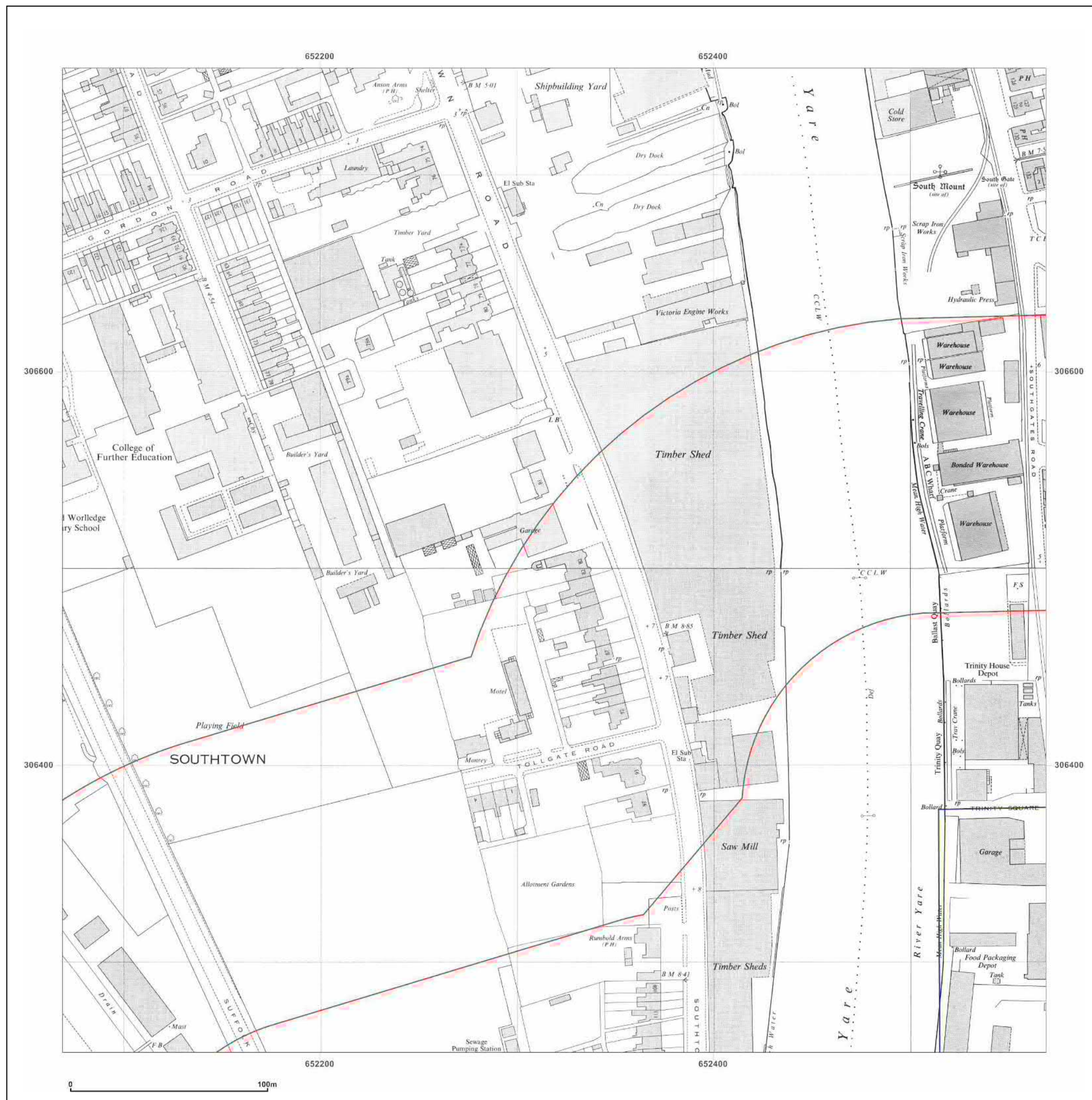


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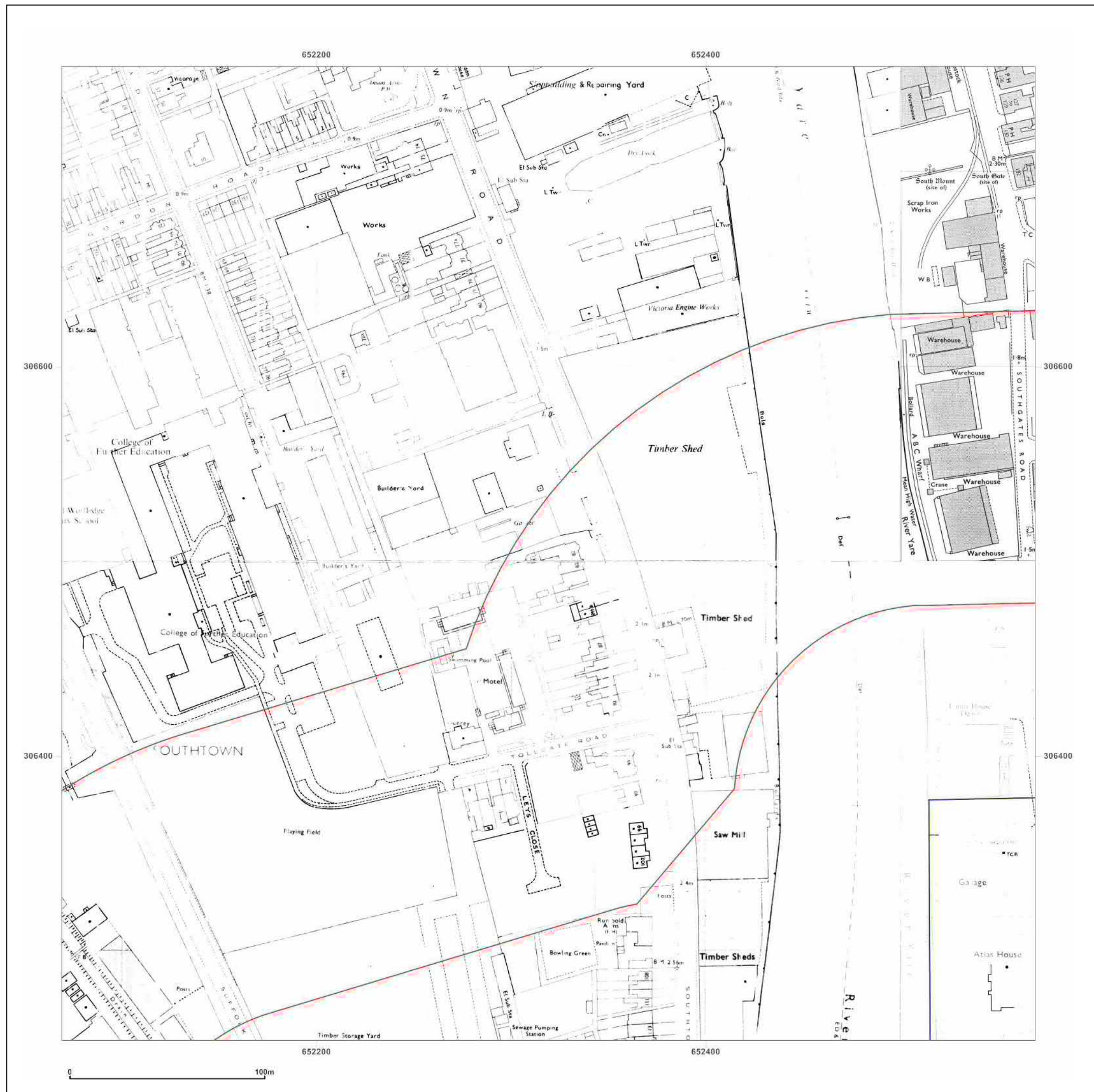
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306504

Map Name: National Grid  
Map date: 1975-1978  
Scale: 1:1,250  
Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652319, 306504

Map Name: National Grid  
Map date: 1984-1990  
Scale: 1:1,250  
Printed at: 1:2,000



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Surveyed 1958 Revised 1990 Edition N/A Copyright 1990 Levelled 1958	Surveyed N/A Revised N/A Edition N/A Copyright 1984 Levelled 1958



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#### Site Details:

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652319, 306504

**Map Name:** National Grid

**Map date:** 1994

**Scale:** 1:1,250

**Printed at:** 1:2,000



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Edition N/A  
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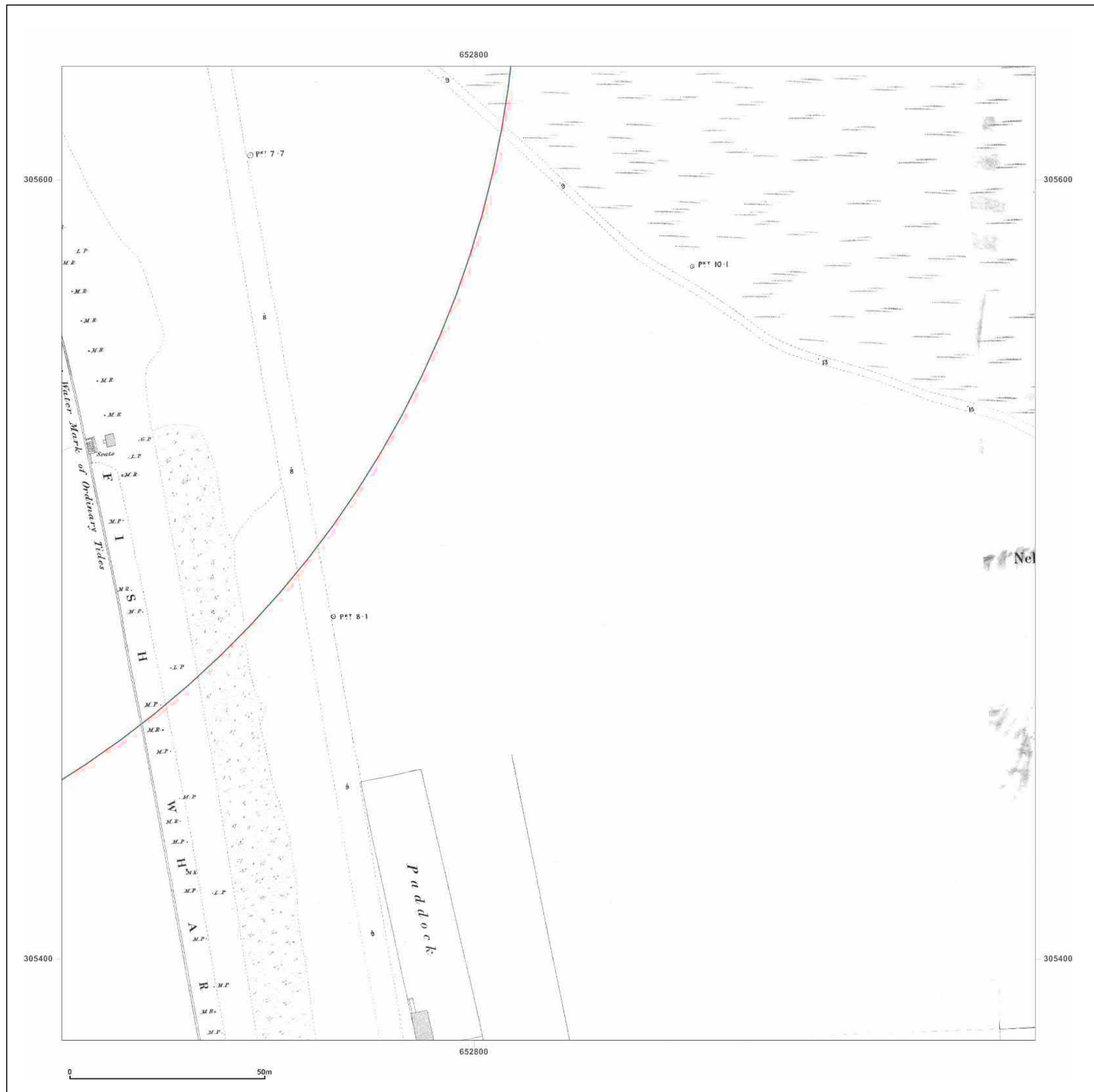
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 305504

Map Name: County Series Town Plan

Map date: 1884-1885

Scale: 1:500

Printed at: 1:1,000



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#### Site Details:

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652819, 305504

**Map Name:** National Grid

**Map date:** 1957-1958

**Scale:** 1:1,250

**Printed at:** 1:2,000



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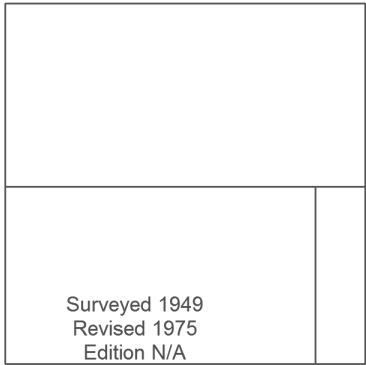




Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 305504

Map Name: National Grid  
Map date: 1975-1976  
Scale: 1:1,250  
Printed at: 1:2,000



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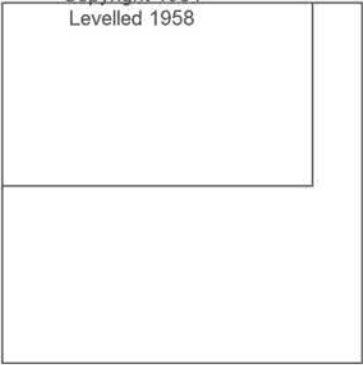
Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 305504

Map Name: National Grid  
Map date: 1984  
Scale: 1:1,250  
Printed at: 1:2,000



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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 305504

Map Name: National Grid

Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000



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Revised N/A  
Edition N/A  
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Revised N/A  
Edition N/A  
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#### Site Details:

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652819, 306004

**Map Name:** County Series Town Plan

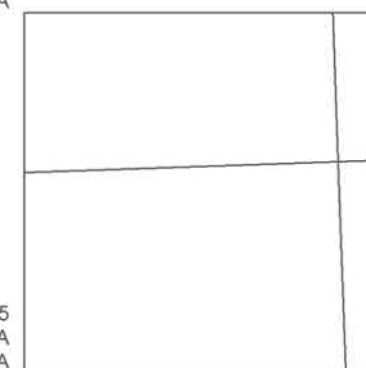
**Map date:** 1885

**Scale:** 1:500

**Printed at:** 1:1,000



Surveyed 1885  
Revised N/A  
Edition N/A  
Copyright N/A  
Levelled N/A

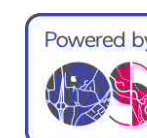


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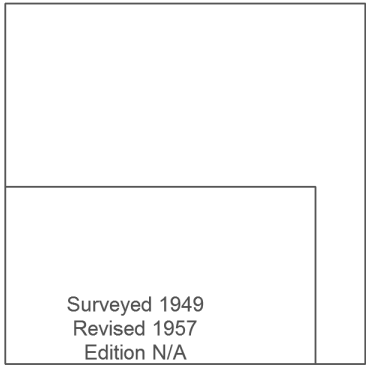




Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306004

Map Name: National Grid  
Map date: 1957  
Scale: 1:1,250  
Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306004

Map Name: National Grid  
Map date: 1964-1968  
Scale: 1:1,250  
Printed at: 1:2,000



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#### Site Details:

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652819, 306004

**Map Name:** National Grid

**Map date:** 1978-1981

**Scale:** 1:1,250

**Printed at:** 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306004

Map Name: National Grid  
Map date: 1990  
Scale: 1:1,250  
Printed at: 1:2,000



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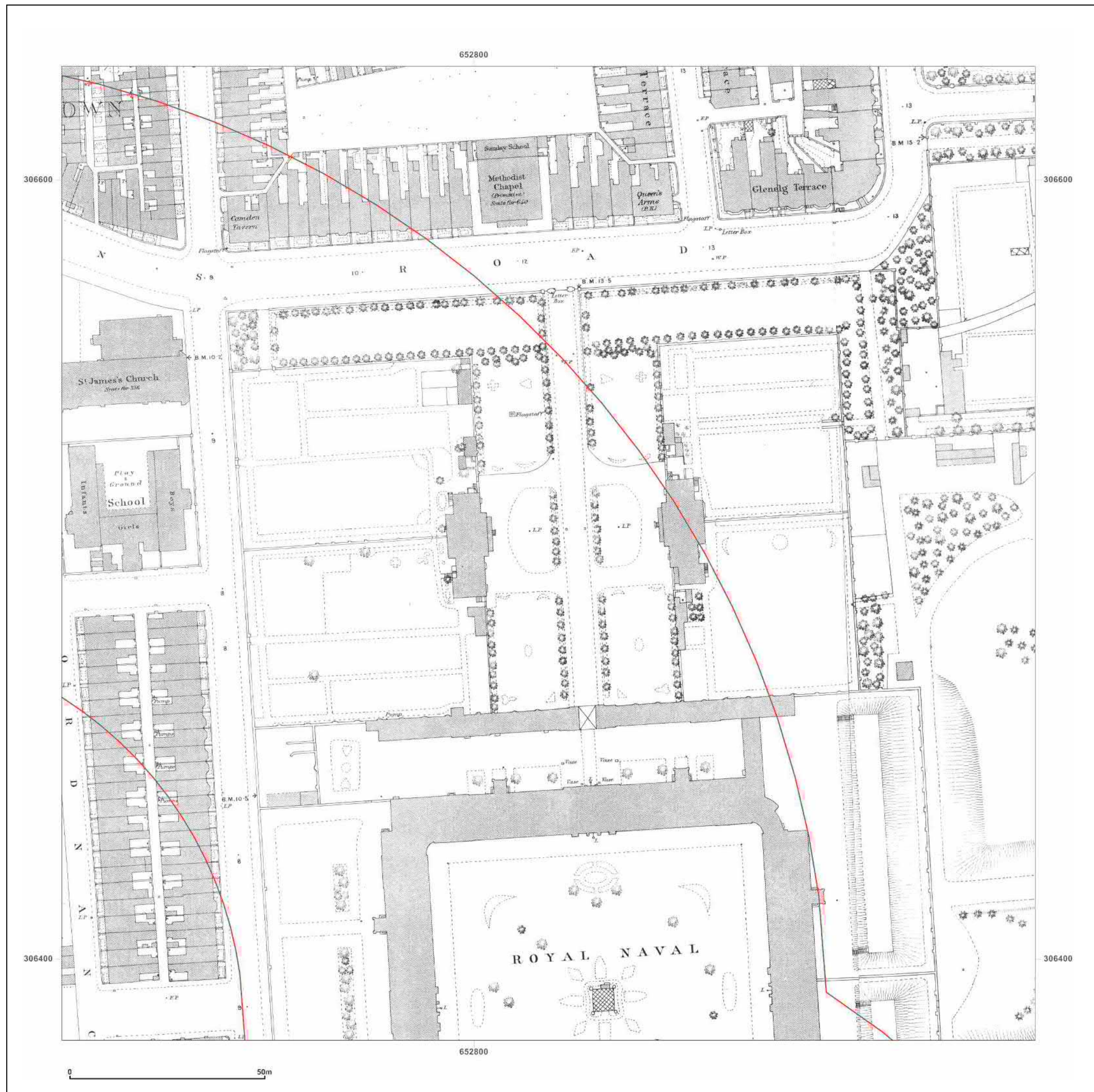
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: County Series Town Plan  
Map date: 1885  
Scale: 1:500  
Printed at: 1:1,000



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Edition N/A  
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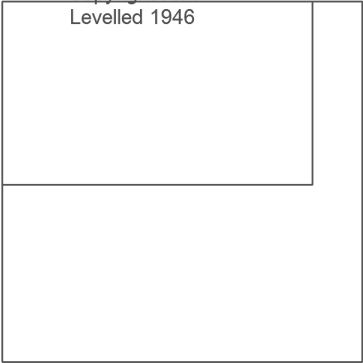
Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid  
Map date: 1954  
Scale: 1:1,250  
Printed at: 1:2,000



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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid

Map date: 1964-1966

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid

Map date: 1975-1978

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid  
Map date: 1984  
Scale: 1:1,250  
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid  
Map date: 1990-1994  
Scale: 1:1,250  
Printed at: 1:2,000



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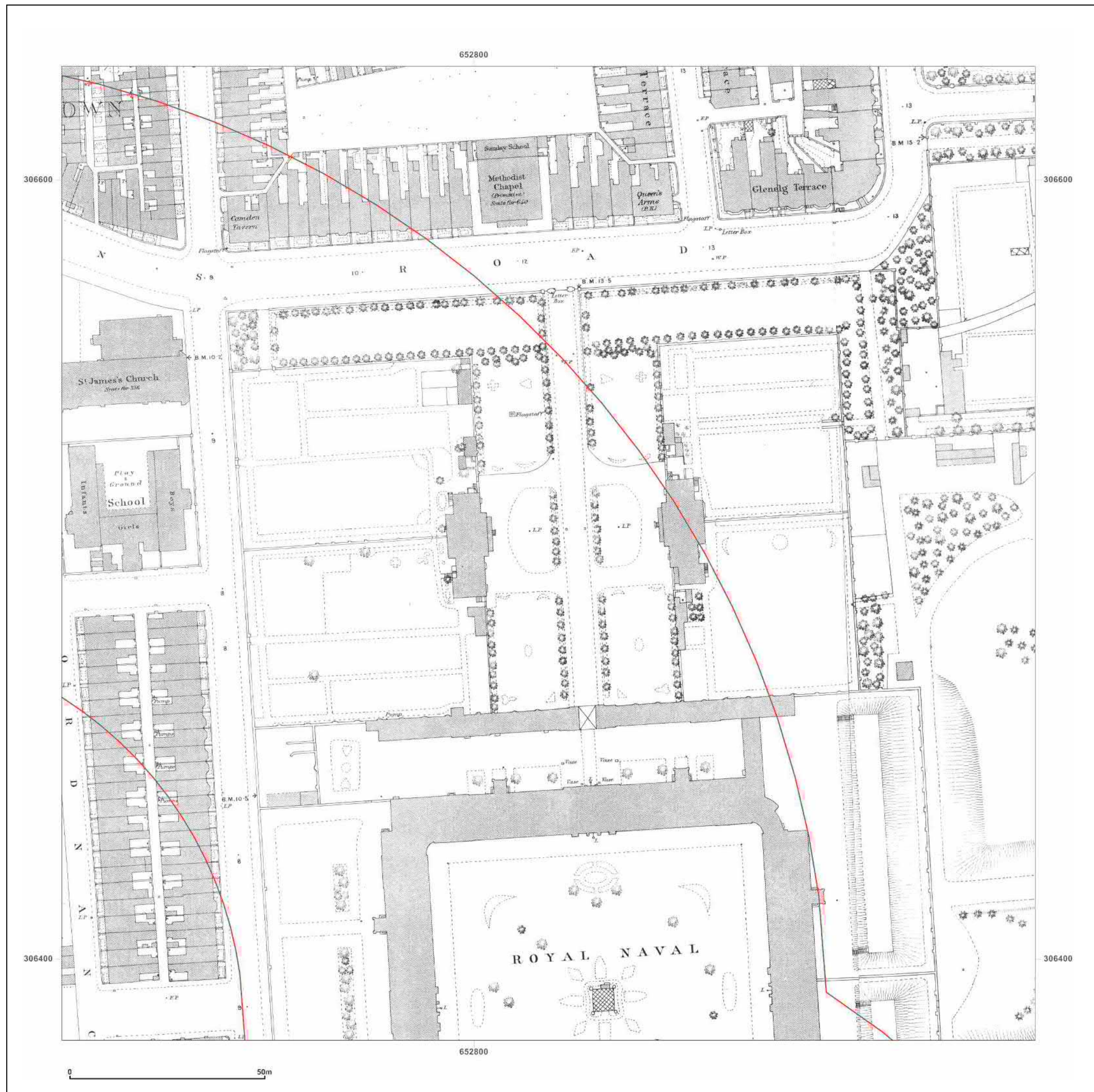
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: County Series Town Plan  
Map date: 1885  
Scale: 1:500  
Printed at: 1:1,000



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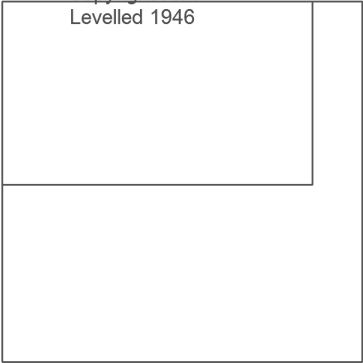
Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid  
Map date: 1954  
Scale: 1:1,250  
Printed at: 1:2,000



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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid

Map date: 1964-1966

Scale: 1:1,250

Printed at: 1:2,000



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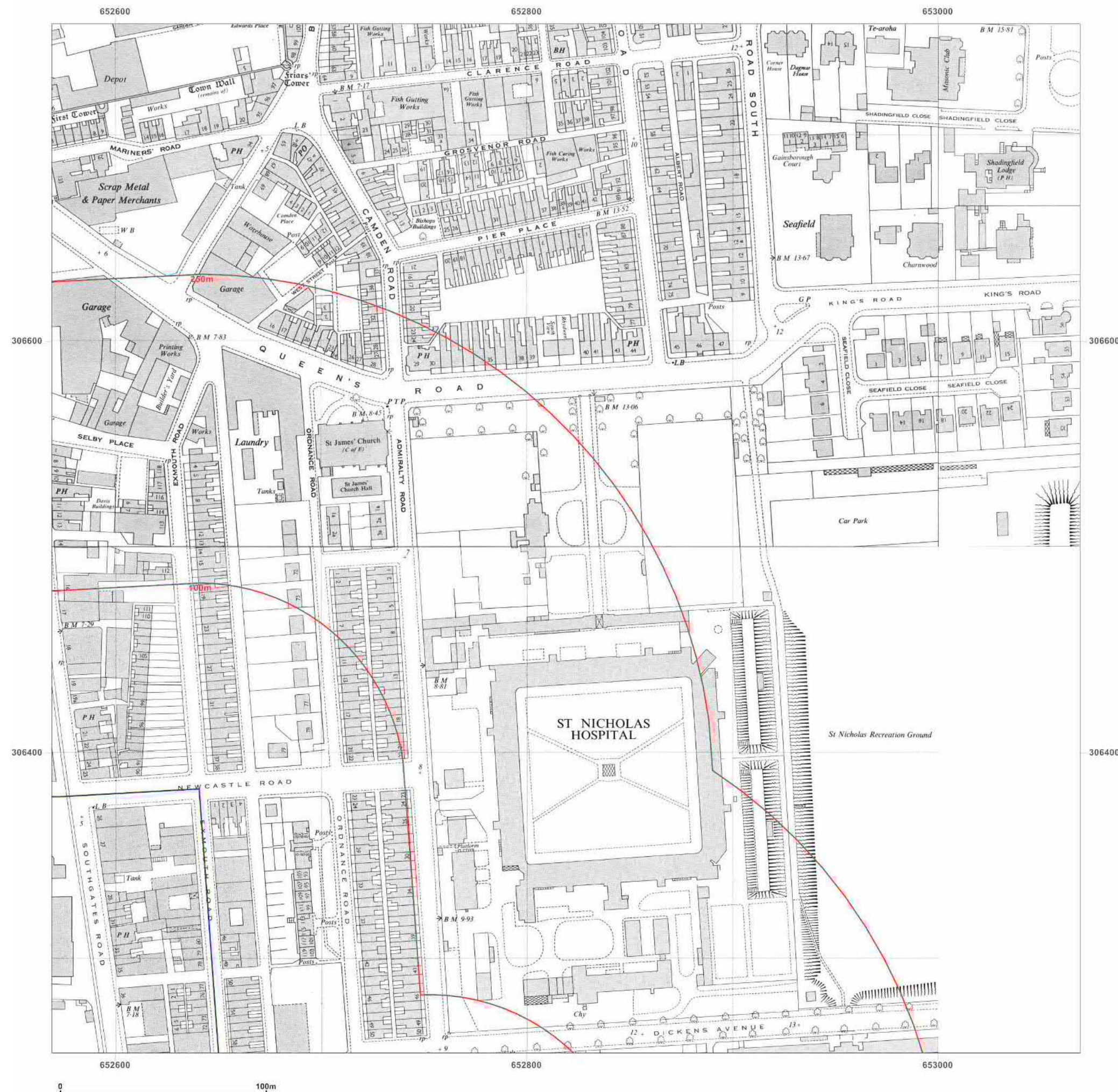


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#### Site Details:

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652819, 306504

**Map Name:** National Grid

**Map date:** 1975-1978

**Scale:** 1:1,250

**Printed at:** 1:2,000



Surveyed 1949  
Revised 1975  
Edition N/A  
Copyright 1975  
Levelled 1958

Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright N/A  
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid  
Map date: 1984  
Scale: 1:1,250  
Printed at: 1:2,000



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1984  
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 306504

Map Name: National Grid  
Map date: 1990-1994  
Scale: 1:1,250  
Printed at: 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright 1990 Levelled 1968	Surveyed N/A Revised N/A Edition N/A Copyright 1994 Levelled N/A
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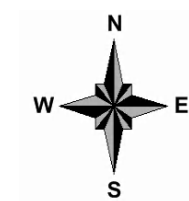
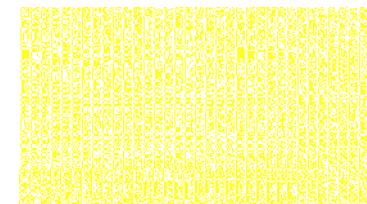
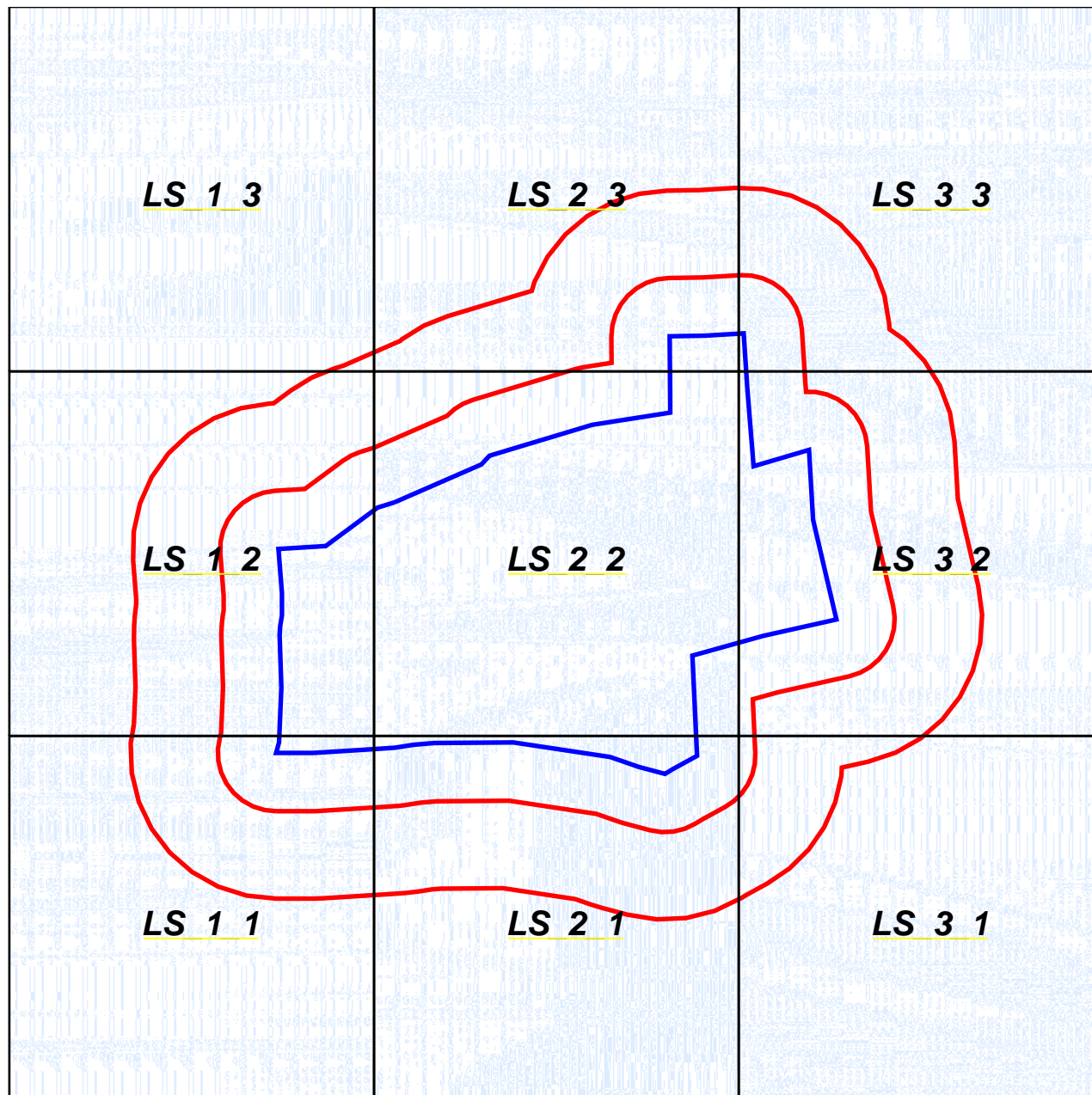
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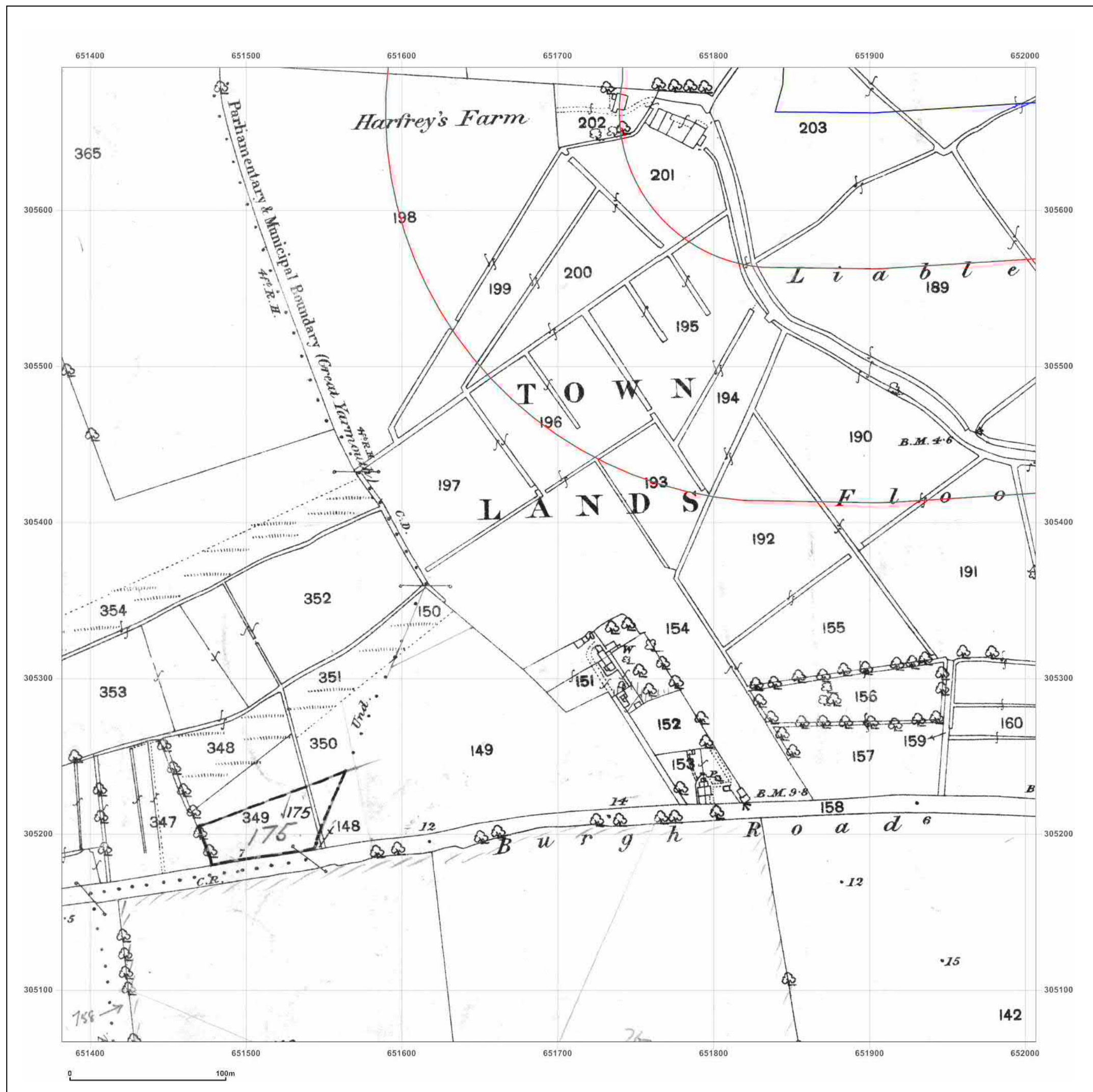
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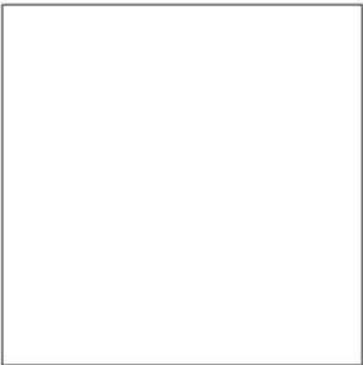
Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_1  
Grid Ref: 651694, 305379

Map Name: County Series

Map date: 1883

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_1  
Grid Ref: 651694, 305379

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



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Edition 1906  
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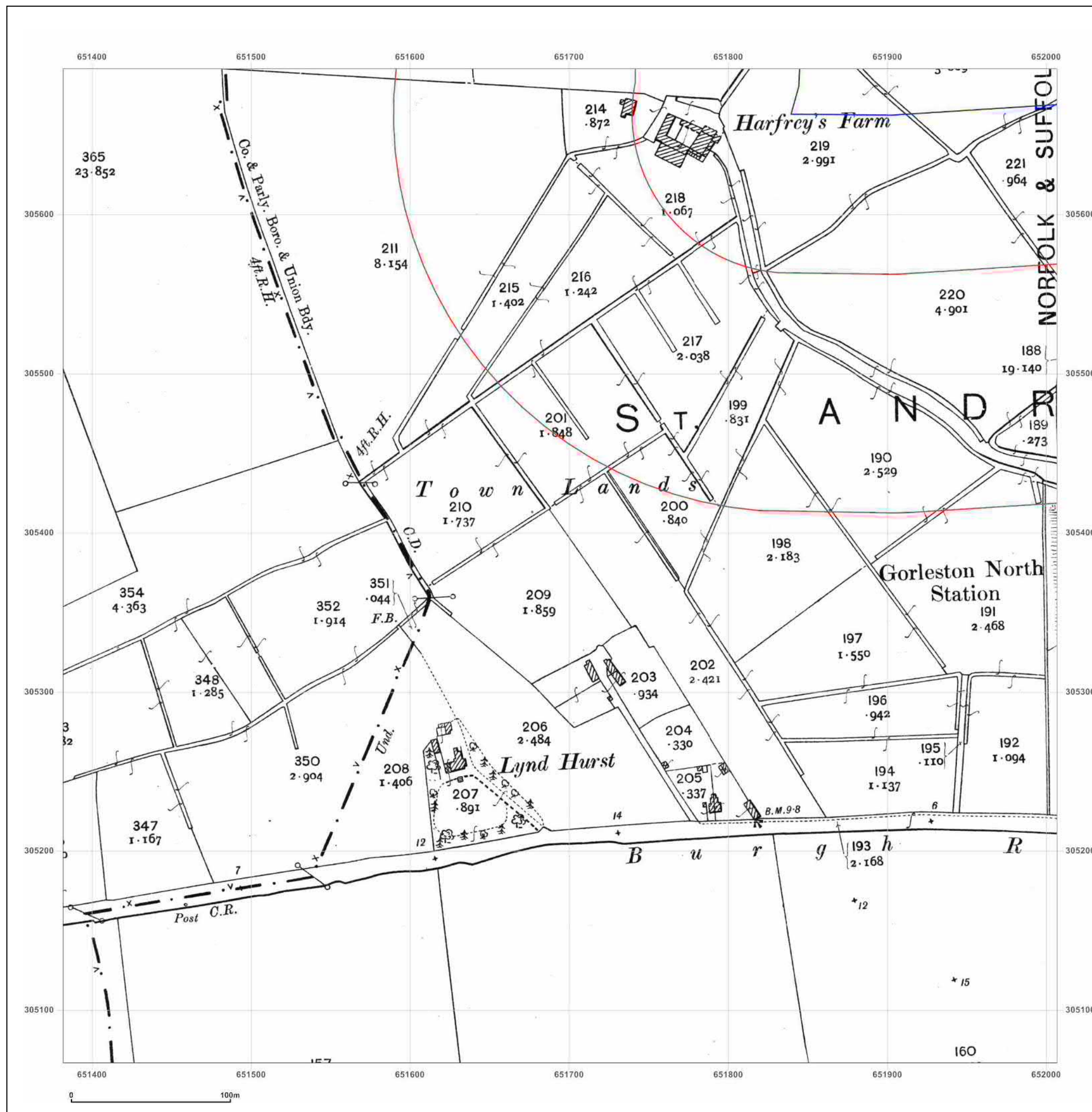


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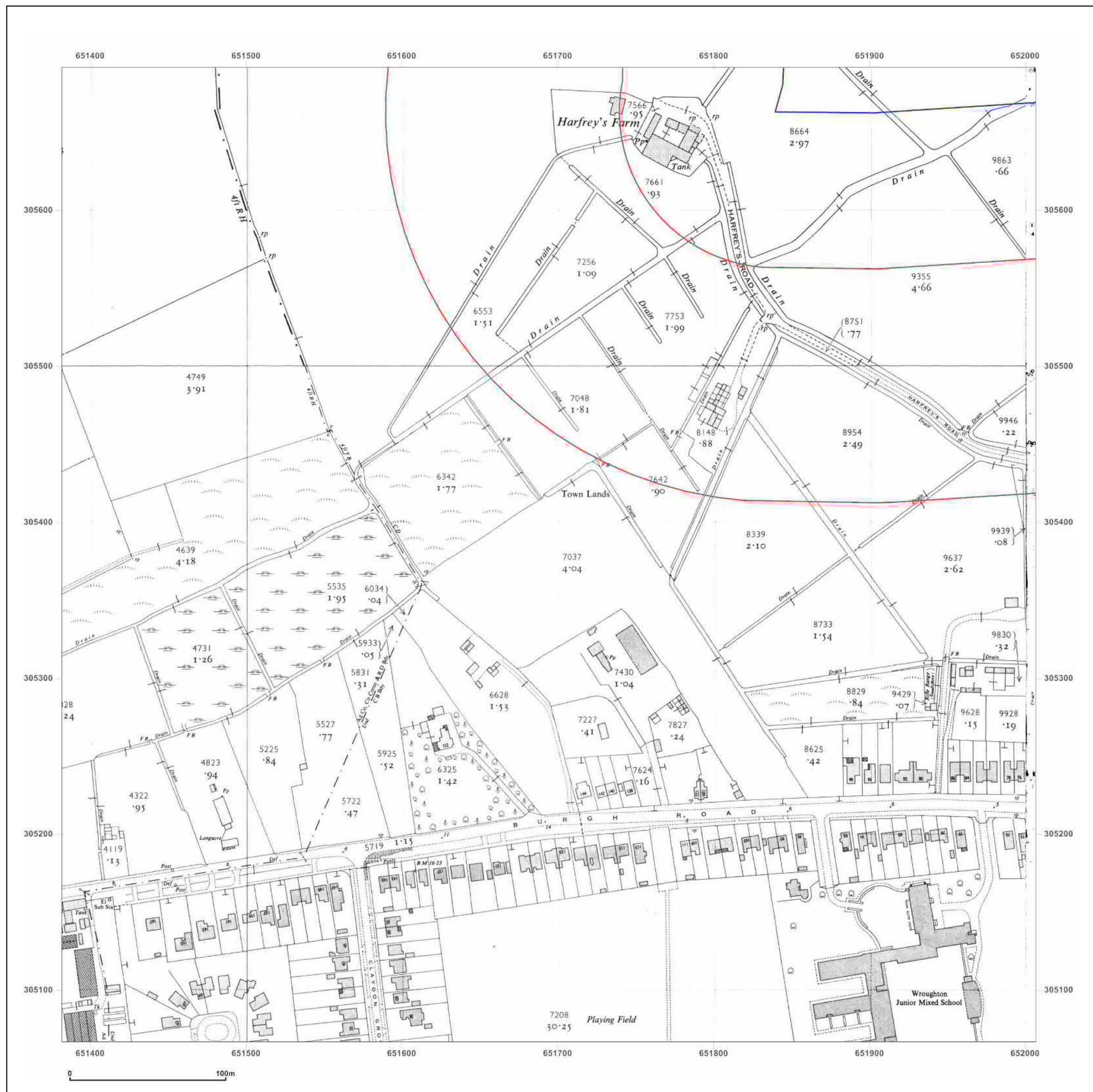
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_1  
Grid Ref: 651694, 305379

Map Name: National Grid

Map date: 1951-1955

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1955  
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Revised N/A  
Edition N/A  
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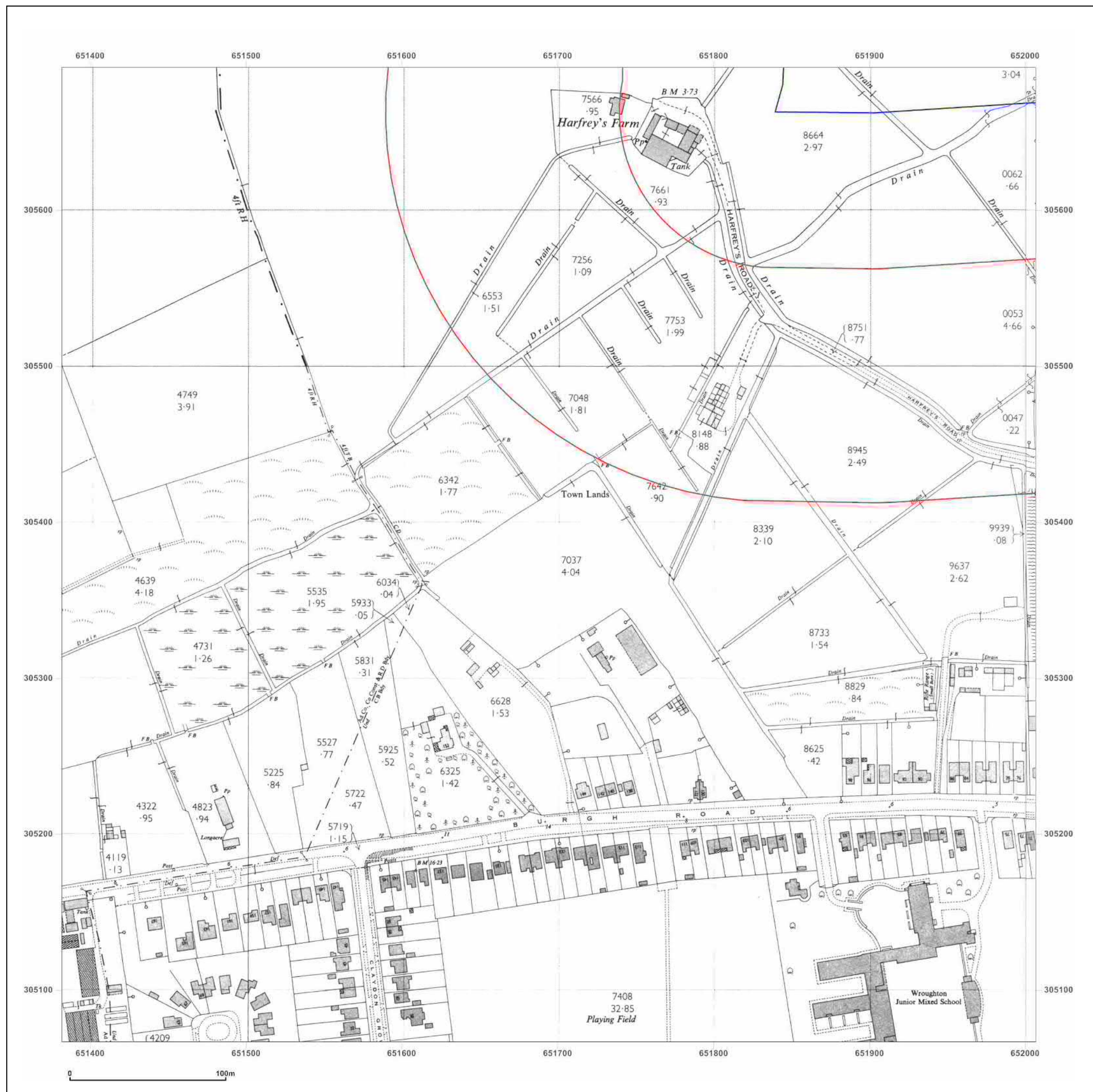
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_1  
Grid Ref: 651694, 305379

Map Name: National Grid  
Map date: 1964-1968  
Scale: 1:2,500  
Printed at: 1:2,500



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Edition 1965  
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Surveyed 1968  
Revised 1968  
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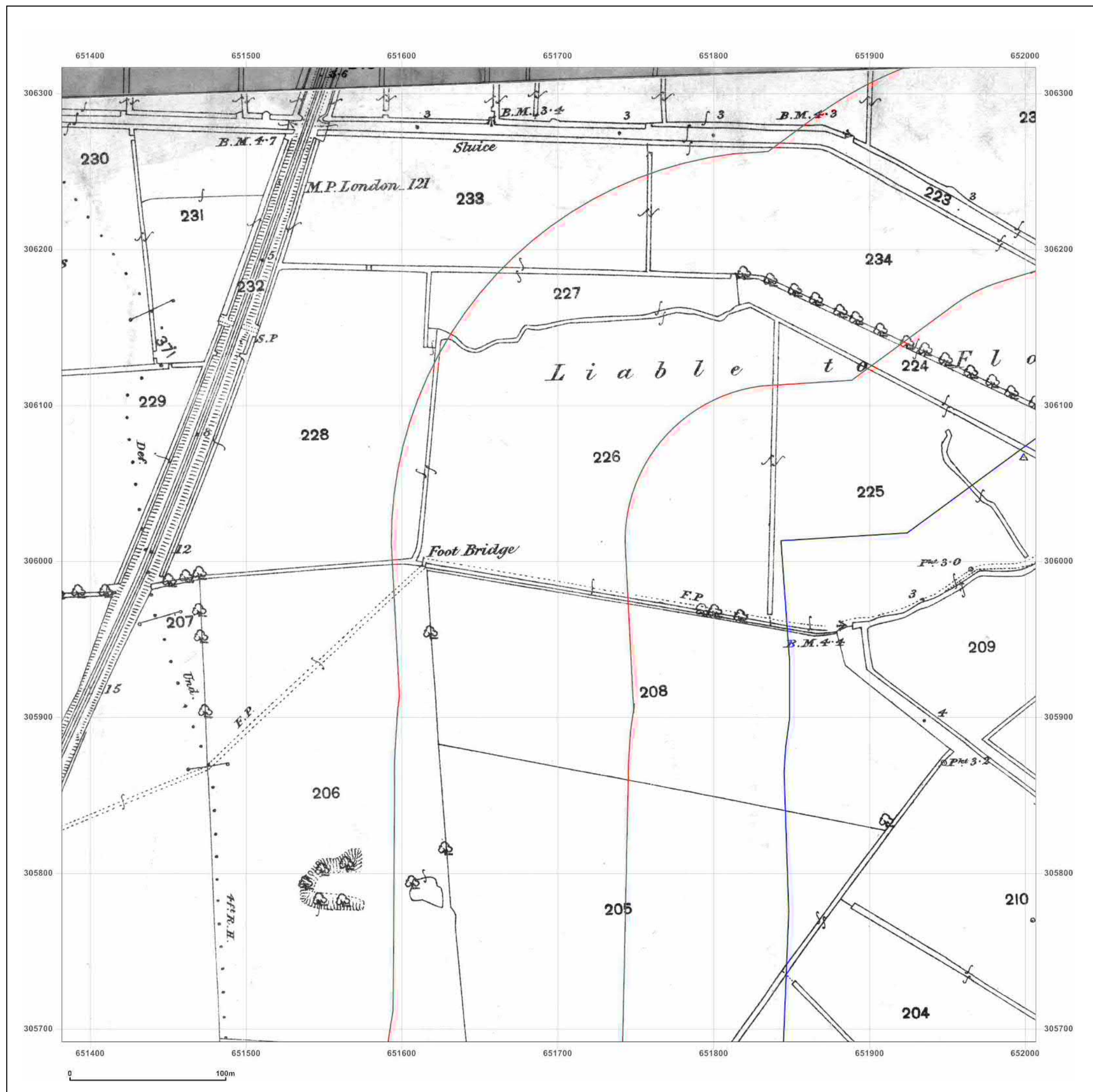
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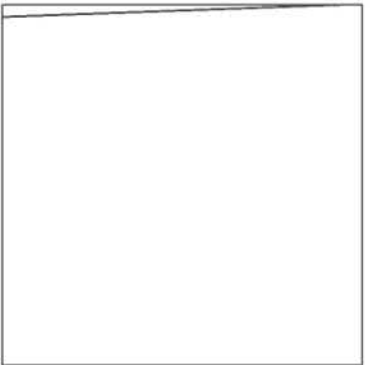




Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_2  
Grid Ref: 651694, 306004

Map Name: County Series  
Map date: 1883  
Scale: 1:2,500  
Printed at: 1:2,500



Surveyed N/A  
Revised N/A  
Edition N/A  
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Surveyed 1883  
Revised 1883  
Edition N/A  
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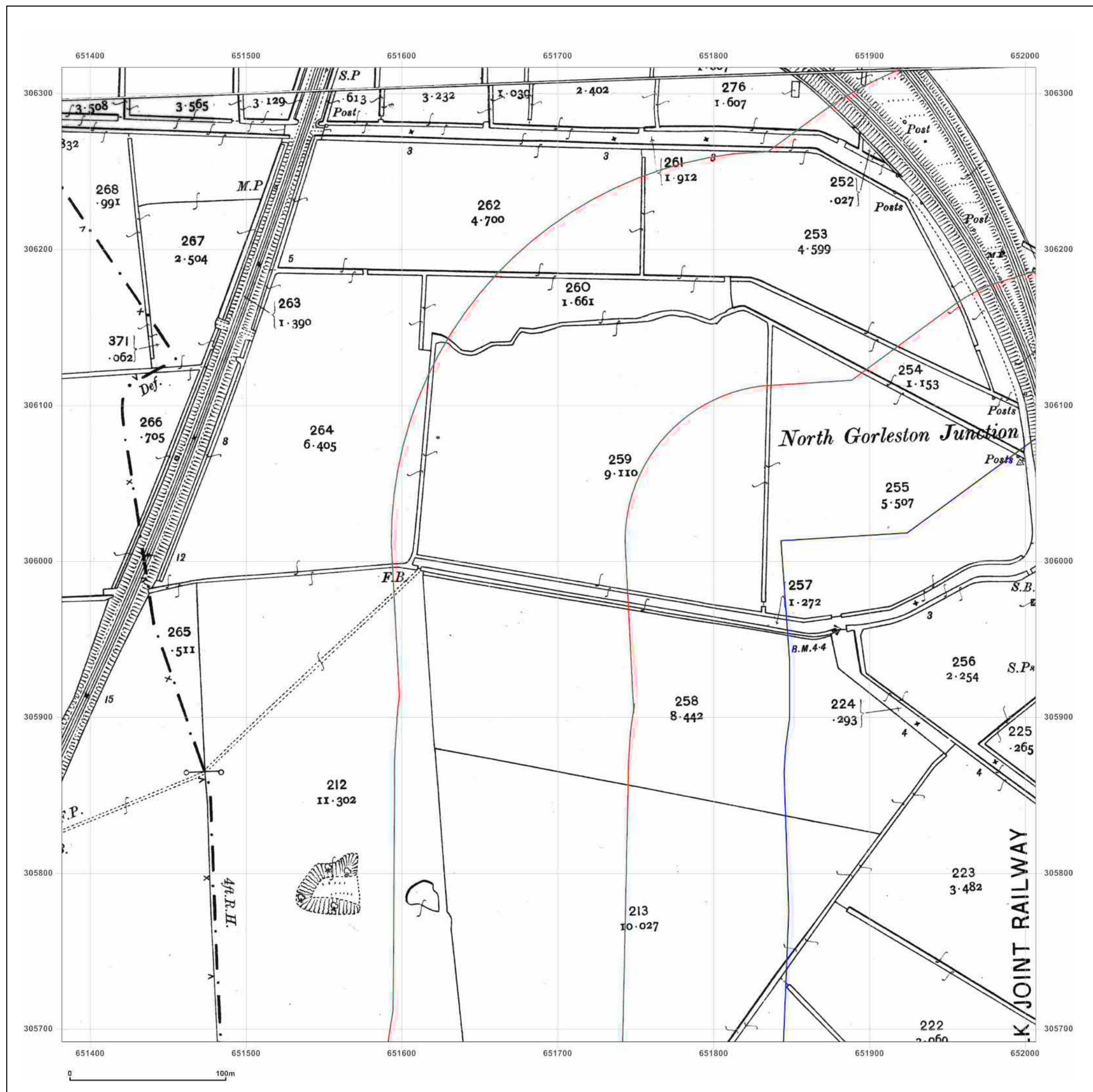
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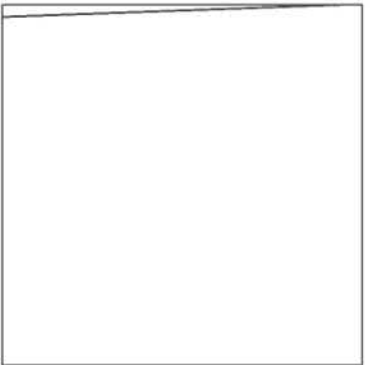




Site Details:

Client Ref: 16287  
 Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_2  
 Grid Ref: 651694, 306004

Map Name: County Series  
 Map date: 1905-1906  
 Scale: 1:2,500  
 Printed at: 1:2,500



Surveyed 1905  
 Revised 1905  
 Edition N/A  
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 Levelled N/A

Surveyed 1883  
 Revised 1904  
 Edition 1906  
 Copyright N/A  
 Levelled N/A



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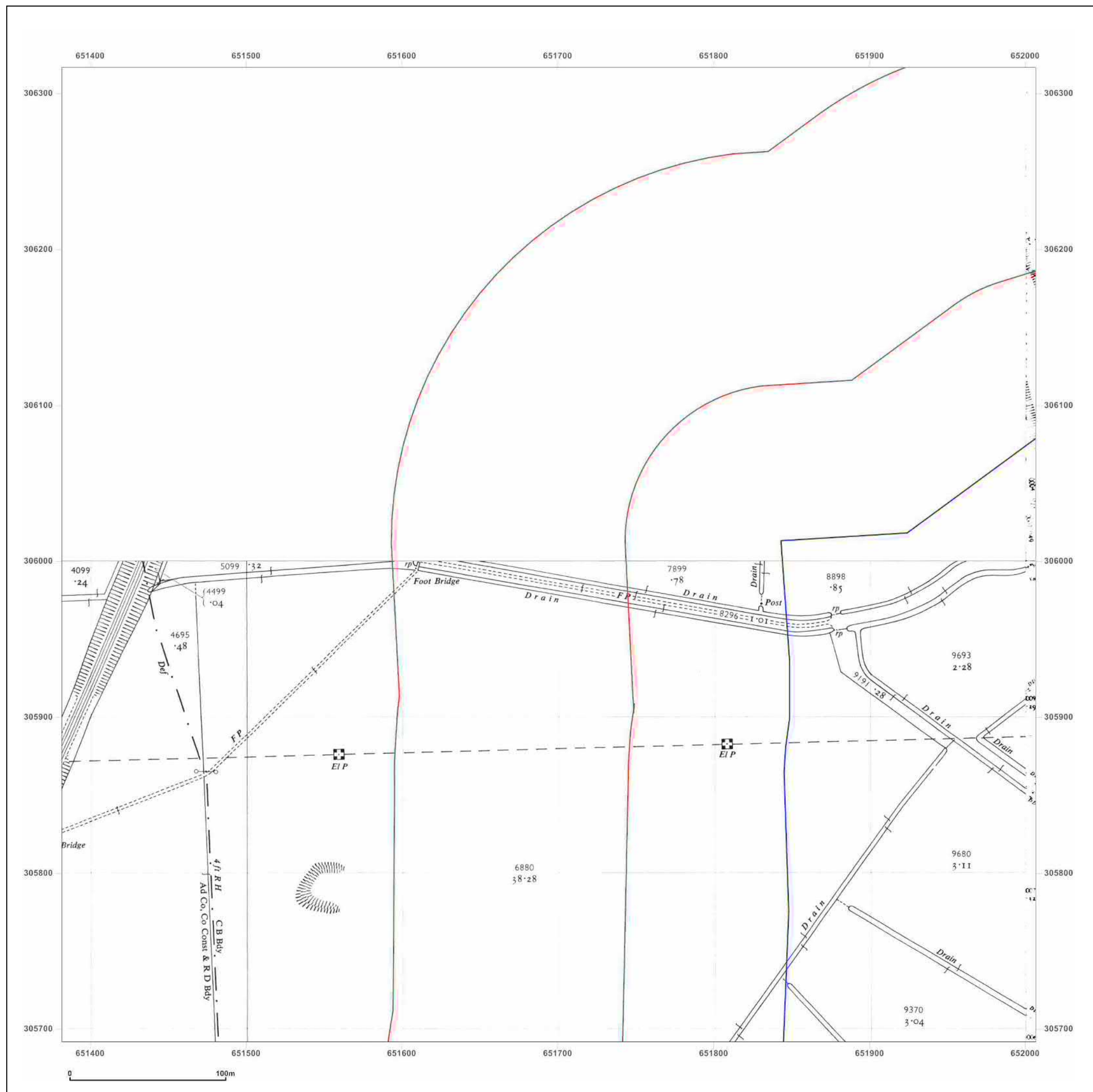


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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_2  
Grid Ref: 651694, 306004

Map Name: National Grid  
Map date: 1951-1955  
Scale: 1:2,500  
Printed at: 1:2,500



Surveyed N/A  
Revised N/A  
Edition N/A  
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Revised N/A  
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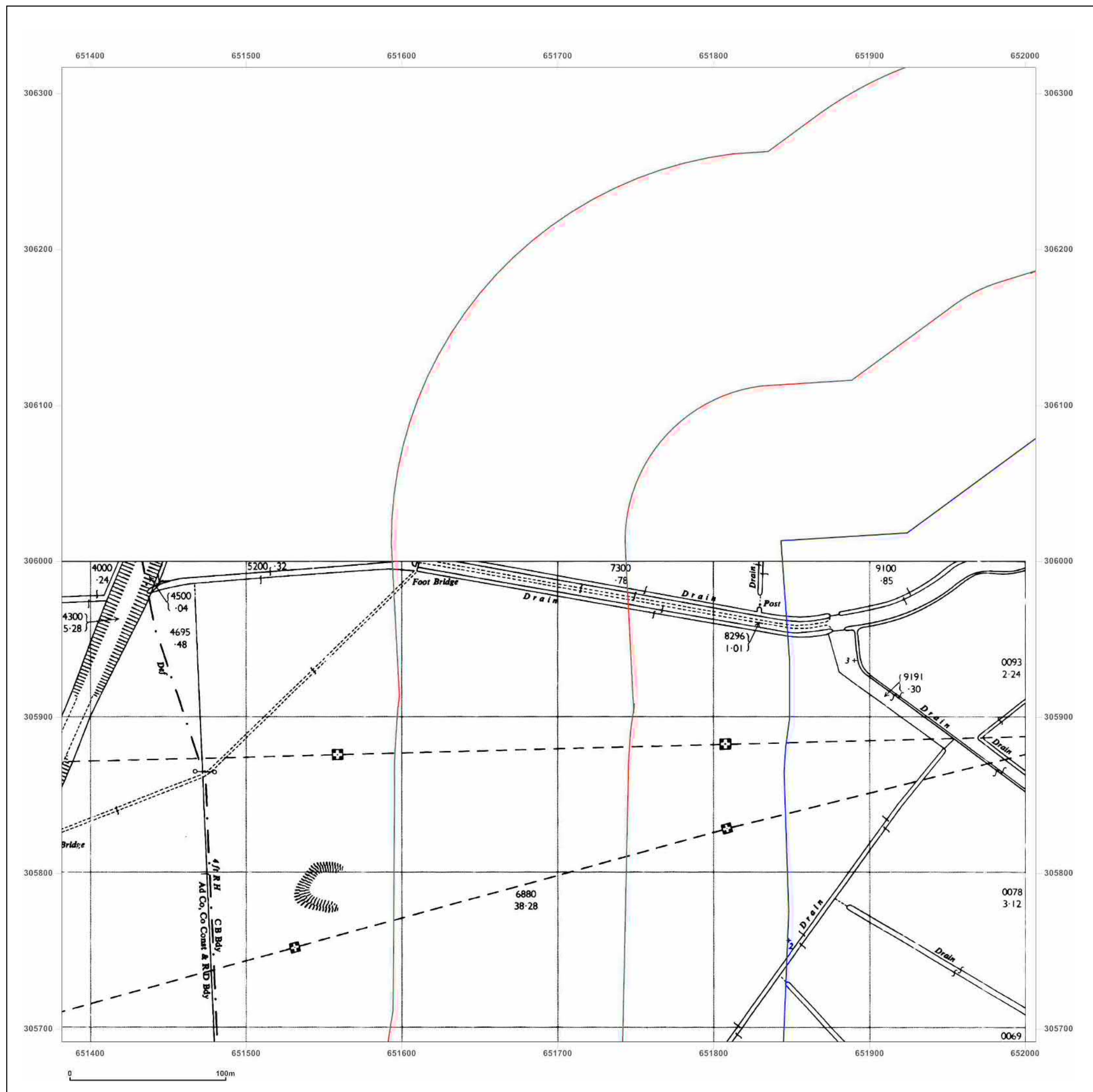
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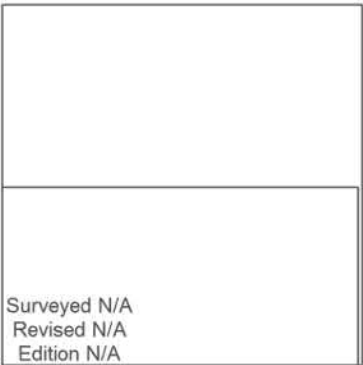




Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_2  
Grid Ref: 651694, 306004

Map Name: National Grid  
Map date: 1965  
Scale: 1:2,500  
Printed at: 1:2,500



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright N/A  
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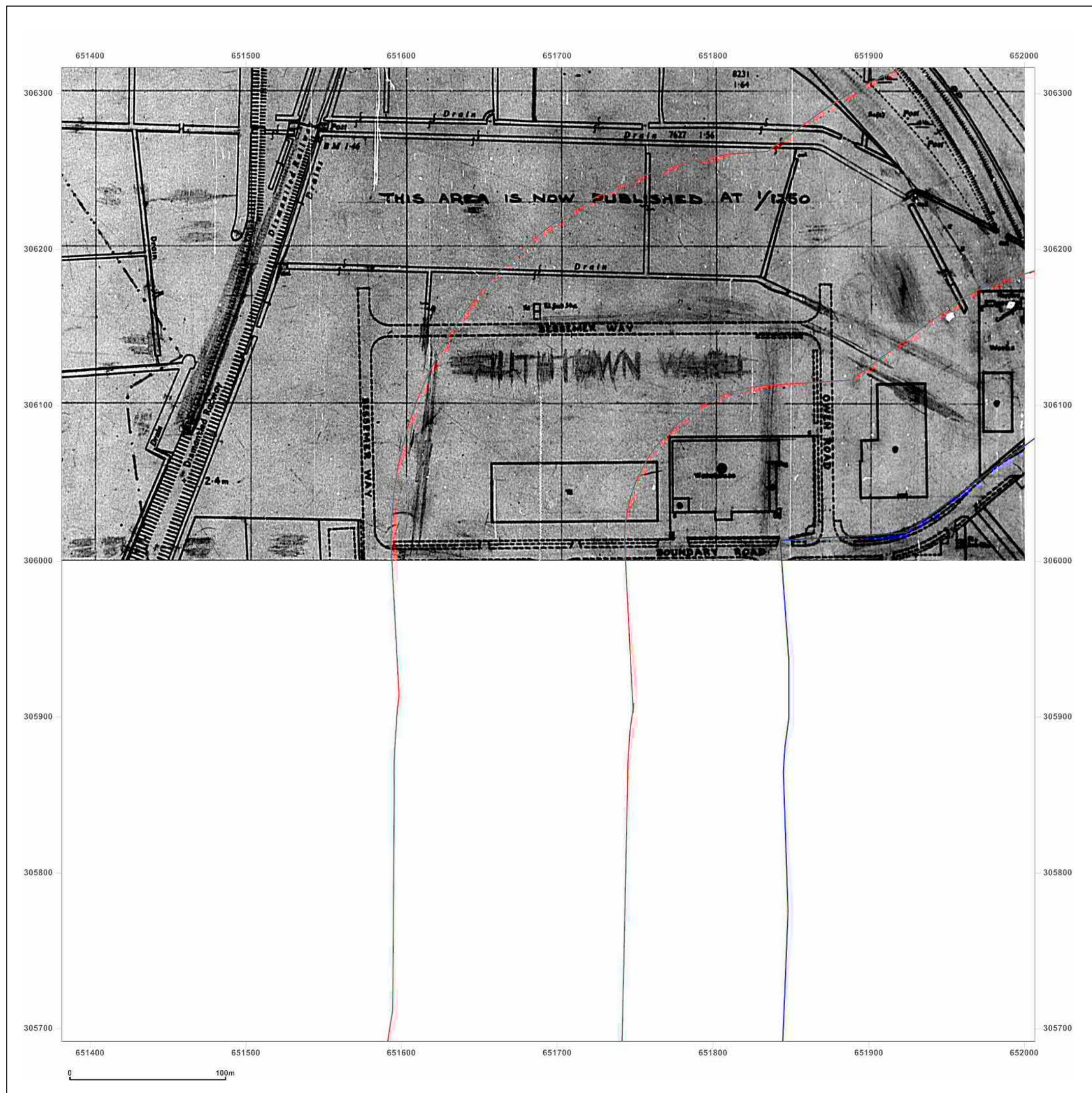
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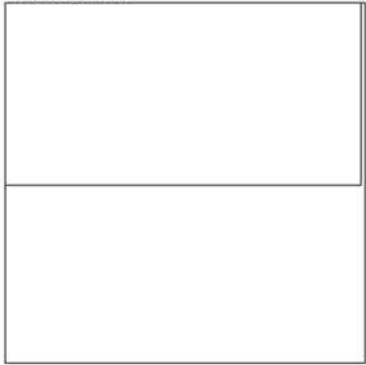
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Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_2  
Grid Ref: 651694, 306004

Map Name: National Grid  
Map date: 1978  
Scale: 1:2,500  
Printed at: 1:2,500



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Revised 1978  
Edition N/A  
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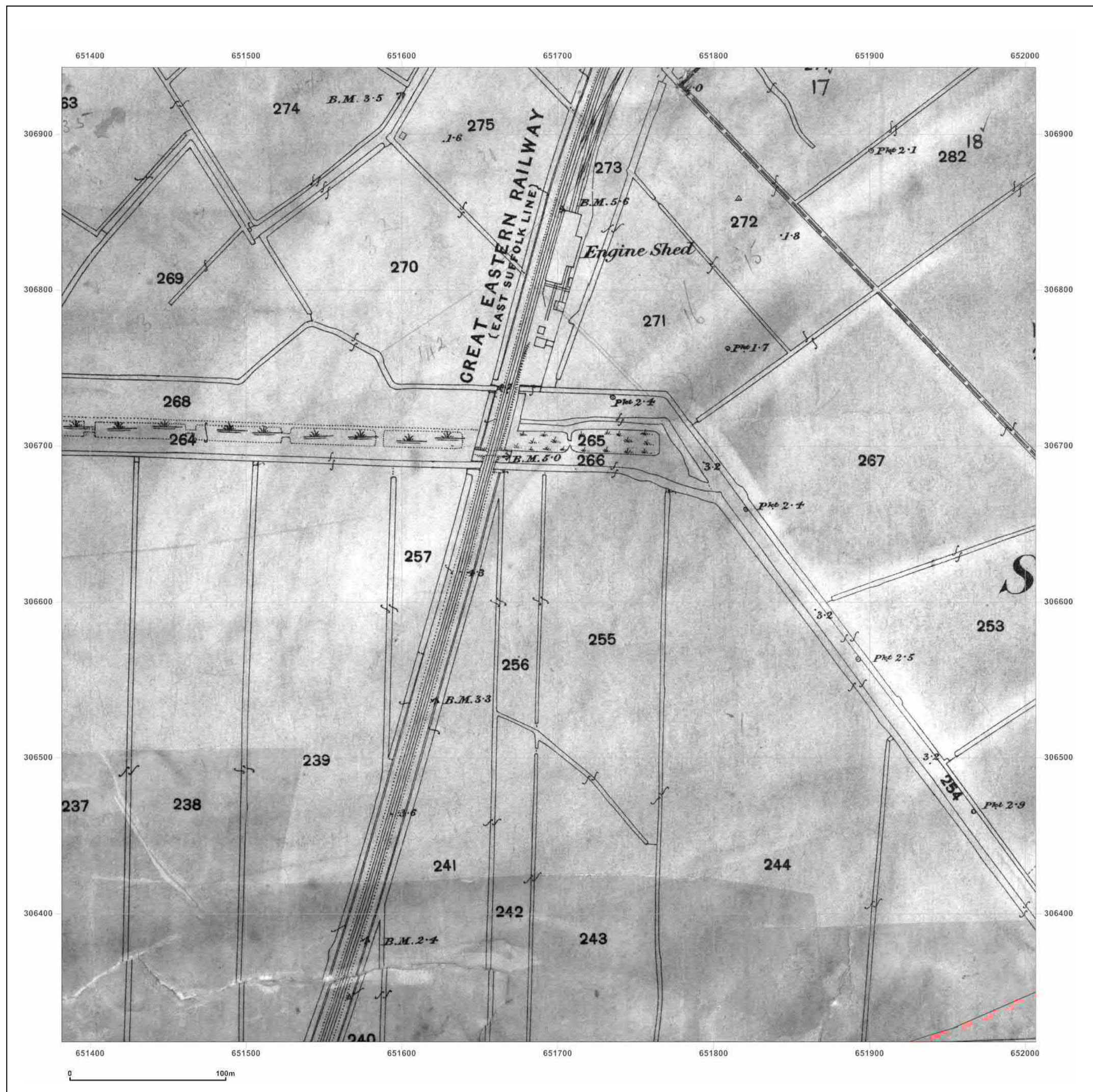
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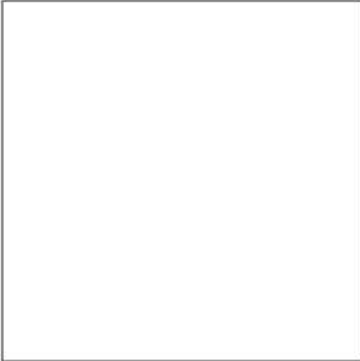




Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_3  
Grid Ref: 651694, 306630

Map Name: County Series  
Map date: 1883  
Scale: 1:2,500  
Printed at: 1:2,500



Surveyed N/A  
Revised N/A  
Edition N/A  
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Surveyed 1883  
Revised 1883  
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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_1\_3  
Grid Ref: 651694, 306630

Map Name: County Series

Map date: 1905-1906

Scale: 1:2,500

Printed at: 1:2,500



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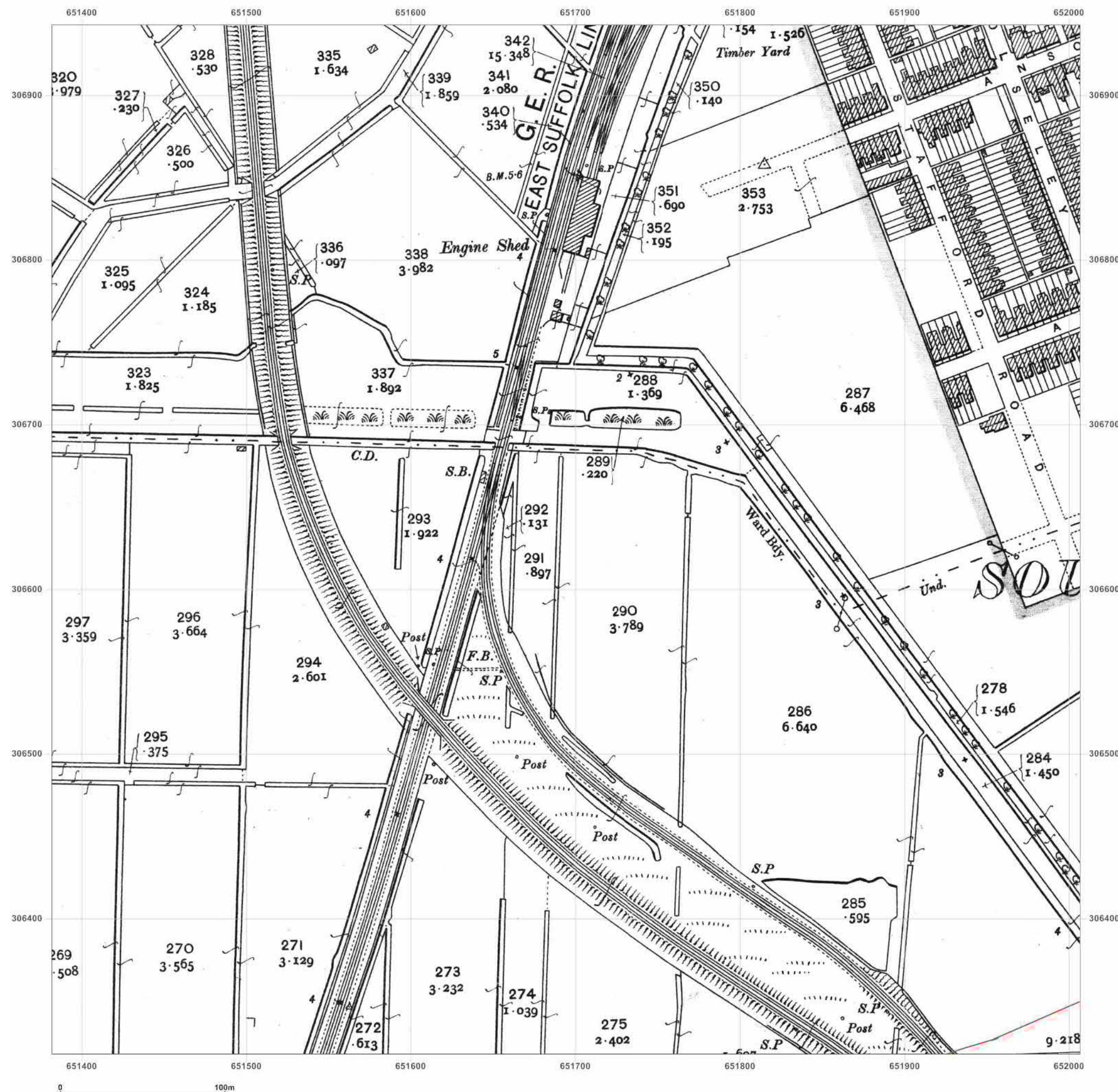


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#### Site Details:

**Client Ref:** 16287  
**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_LS\_1\_3  
**Grid Ref:** 651694, 306630

**Map Name:** National Grid

**Map date:** 1962-1963

**Scale:** 1:2,500

**Printed at:** 1:2,500



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Surveyed 1963  
Revised 1963  
Edition 1965  
Copyright 1965  
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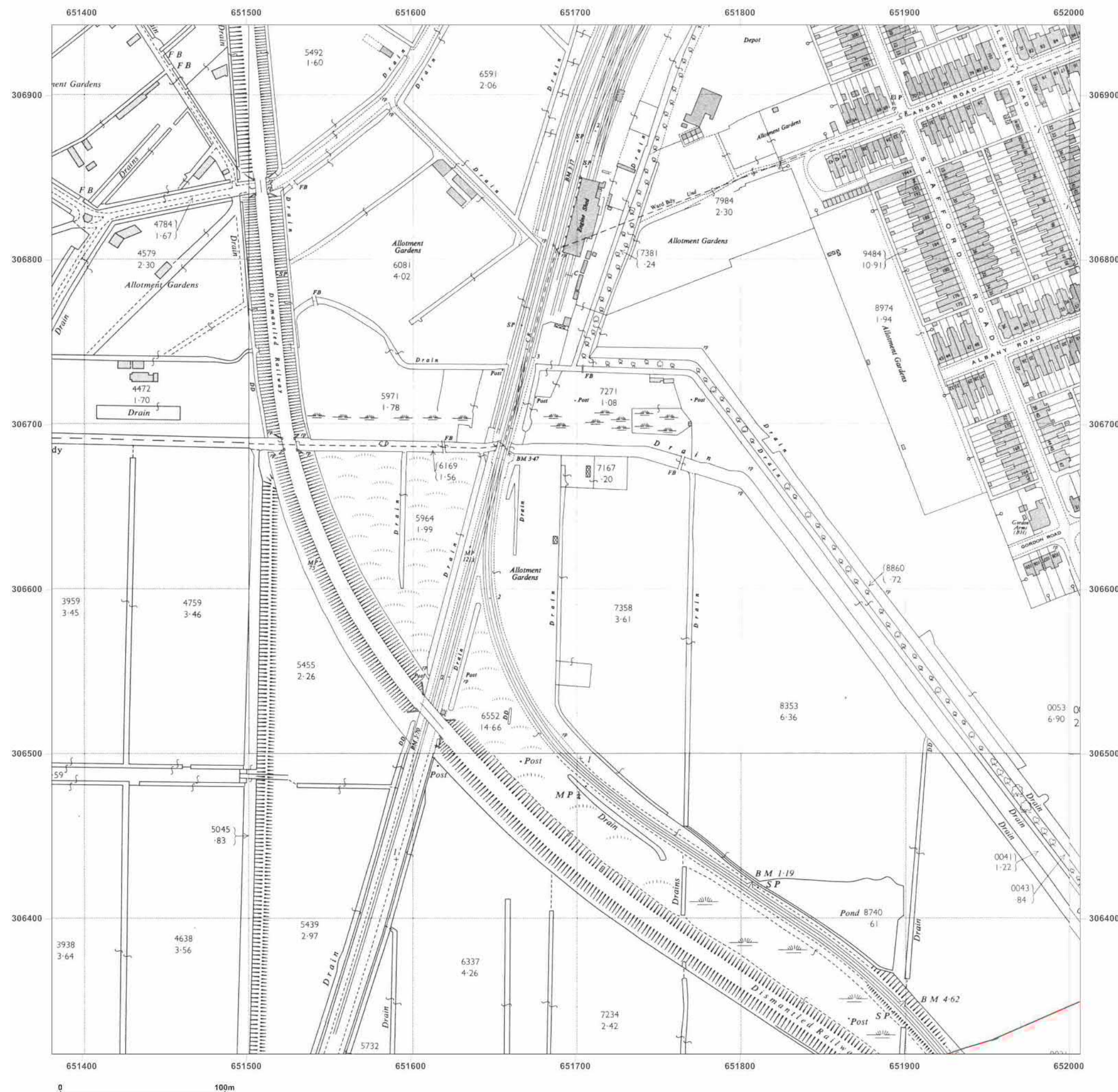


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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_1  
Grid Ref: 652319, 305379

Map Name: County Series

Map date: 1883

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1883  
Revised 1883  
Edition N/A  
Copyright N/A  
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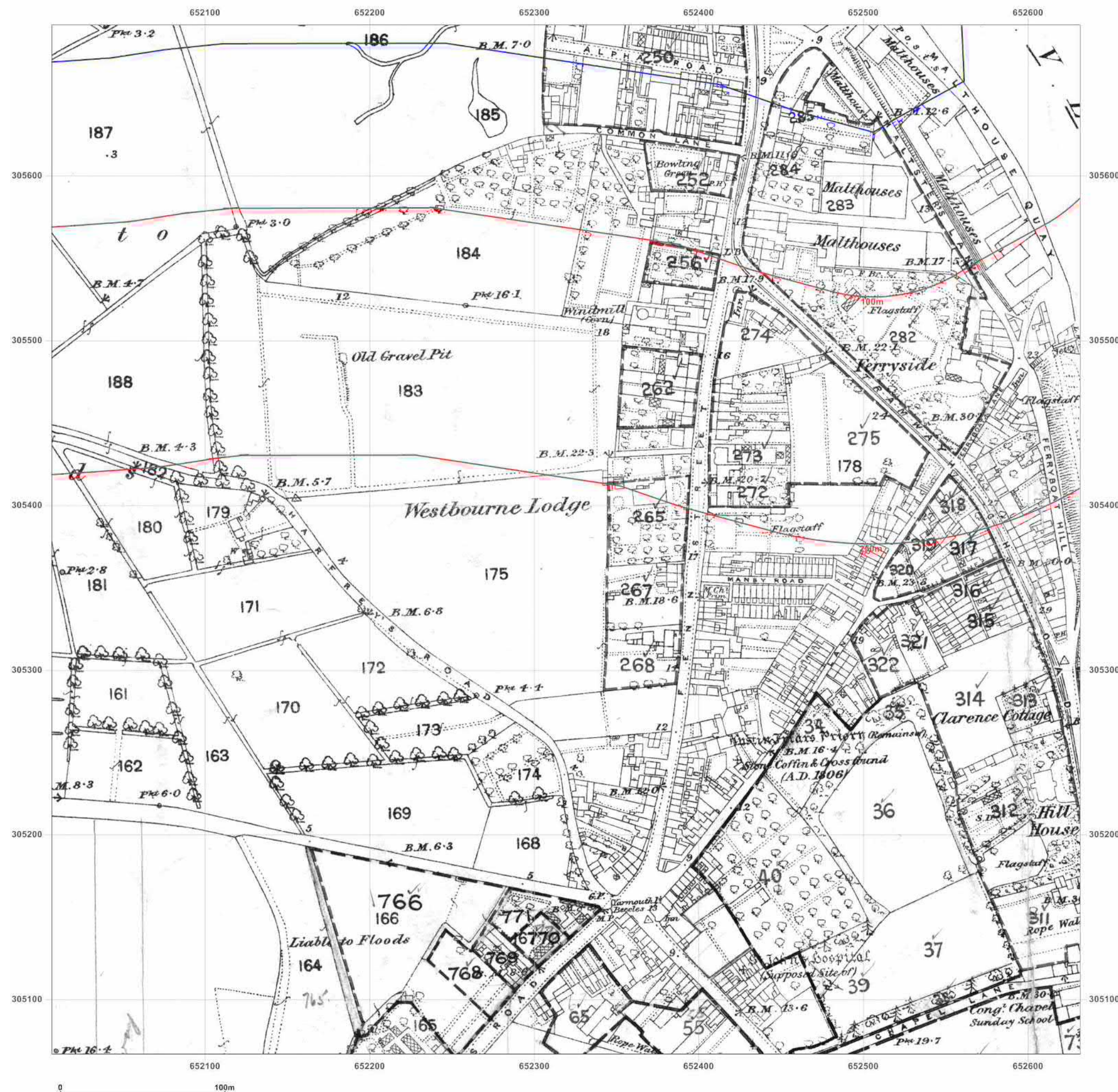


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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_1  
Grid Ref: 652319, 305379

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_1  
Grid Ref: 652319, 305379

Map Name: National Grid

Map date: 1949

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1949  
Revised 1949  
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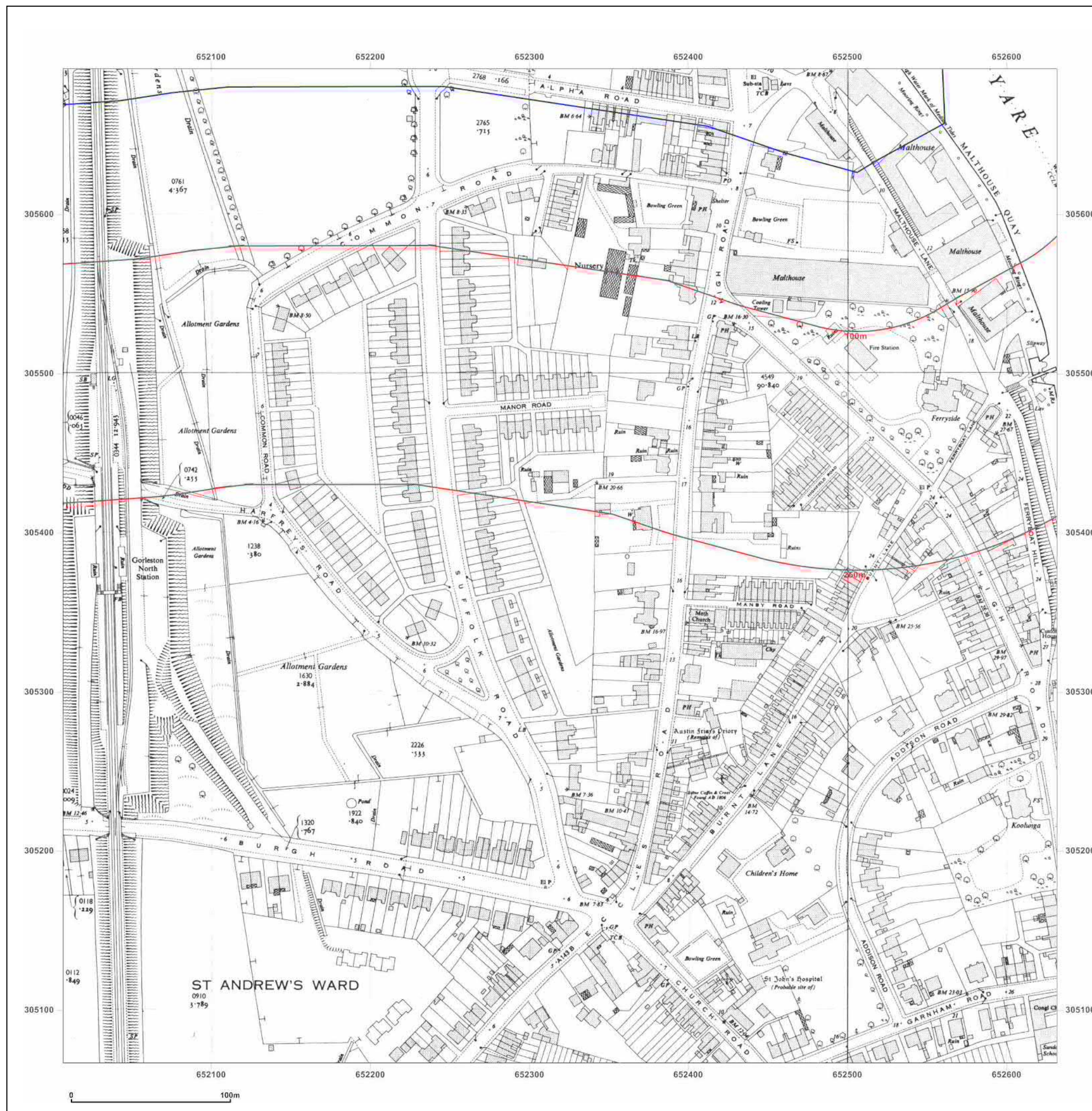


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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_1  
Grid Ref: 652319, 305379

Map Name: National Grid

Map date: 1958

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1958  
Revised 1958  
Edition 1960  
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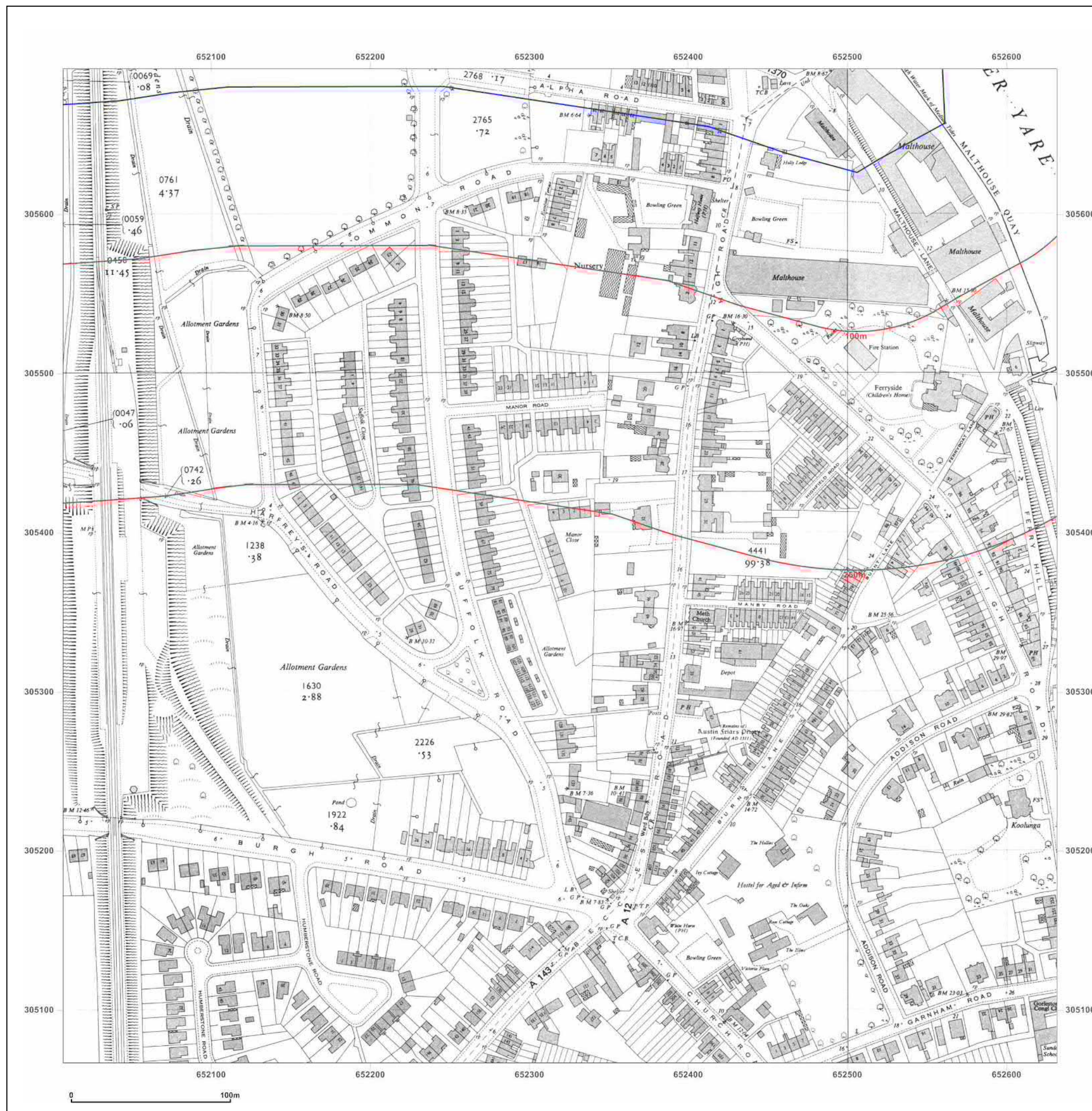


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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_2  
Grid Ref: 652319, 306004

Map Name: County Series

Map date: 1883

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1883  
Revised 1883  
Edition N/A  
Copyright N/A  
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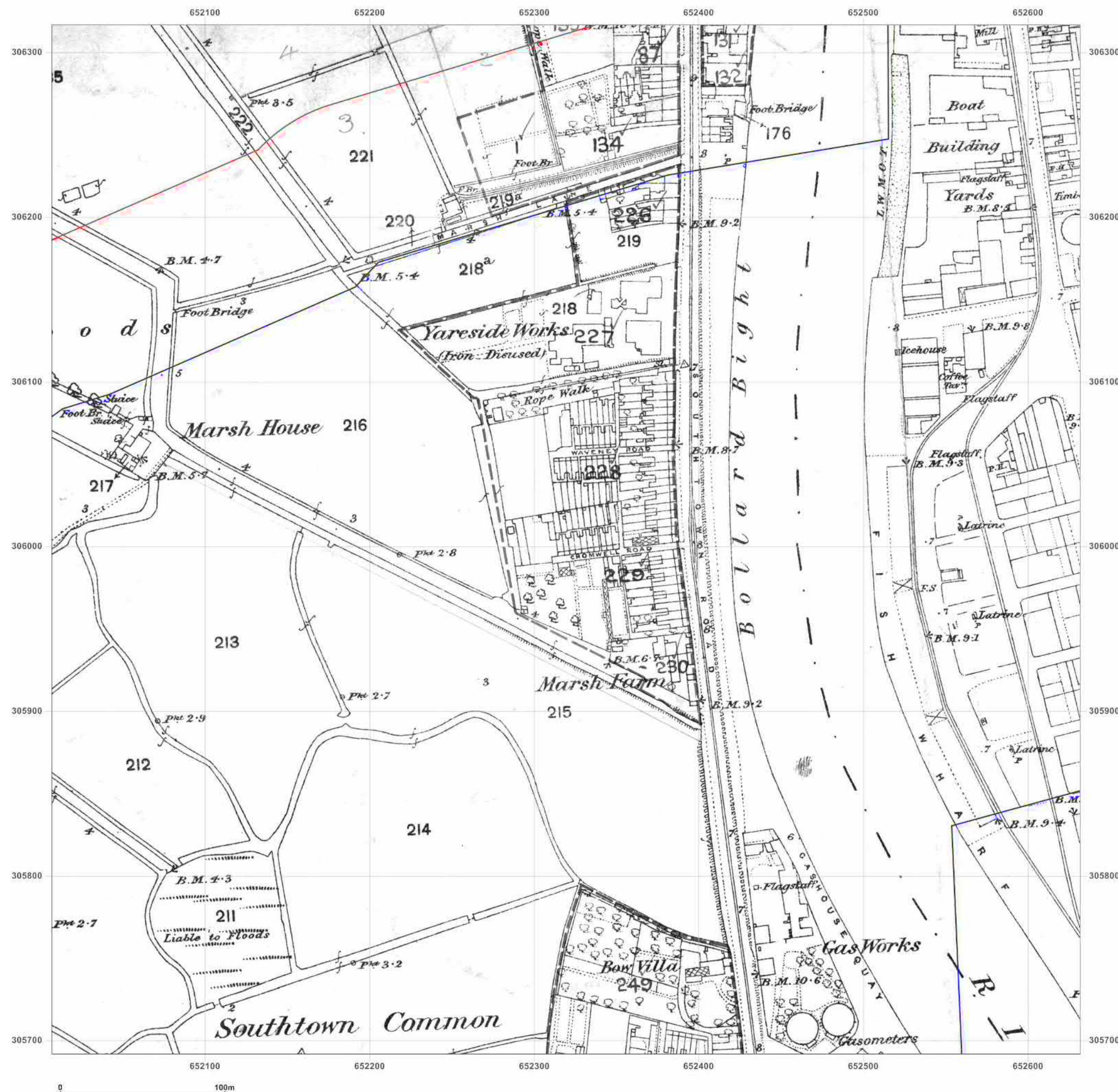


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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_2  
Grid Ref: 652319, 306004

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1883  
Revised 1904  
Edition 1906  
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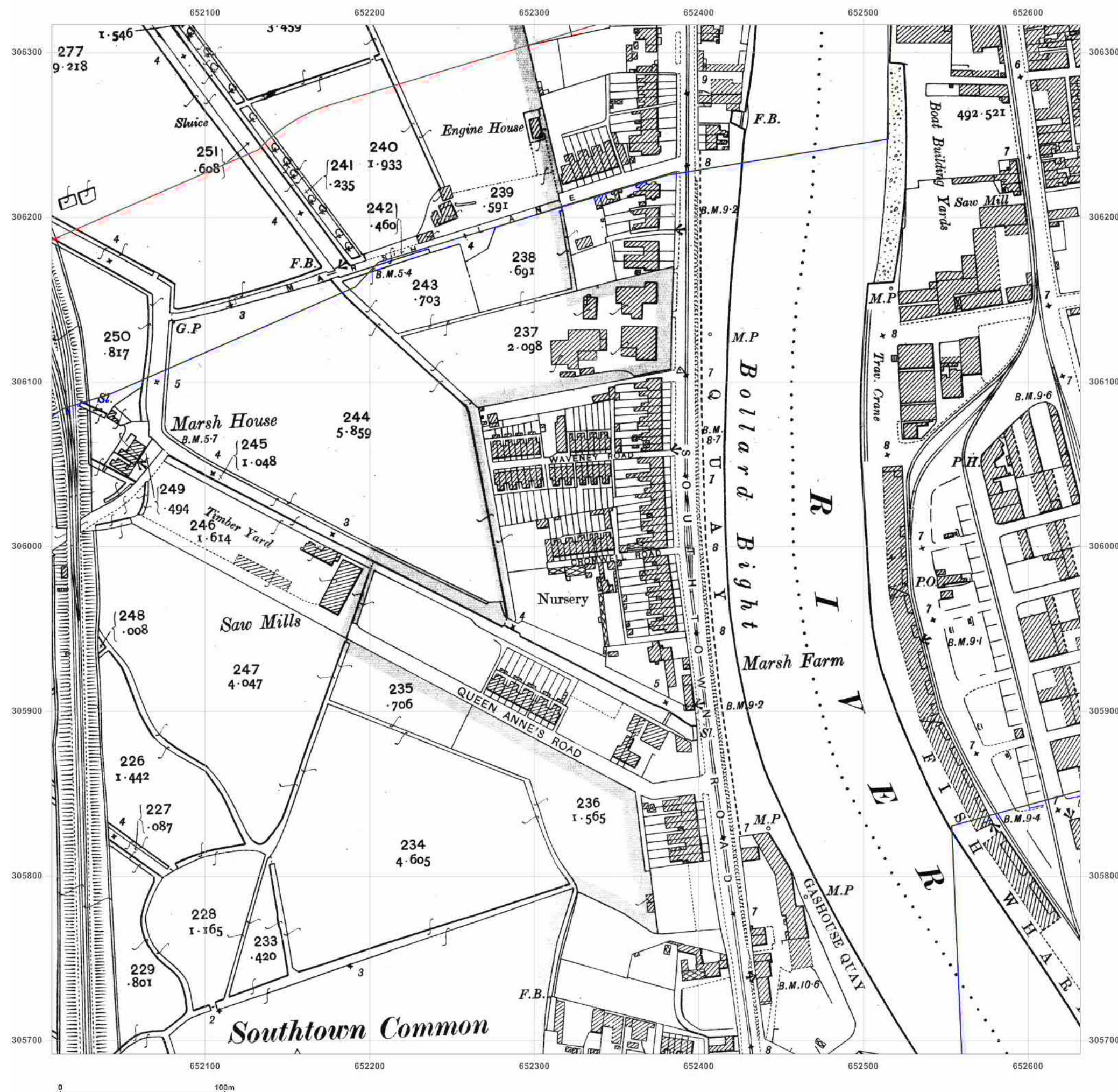


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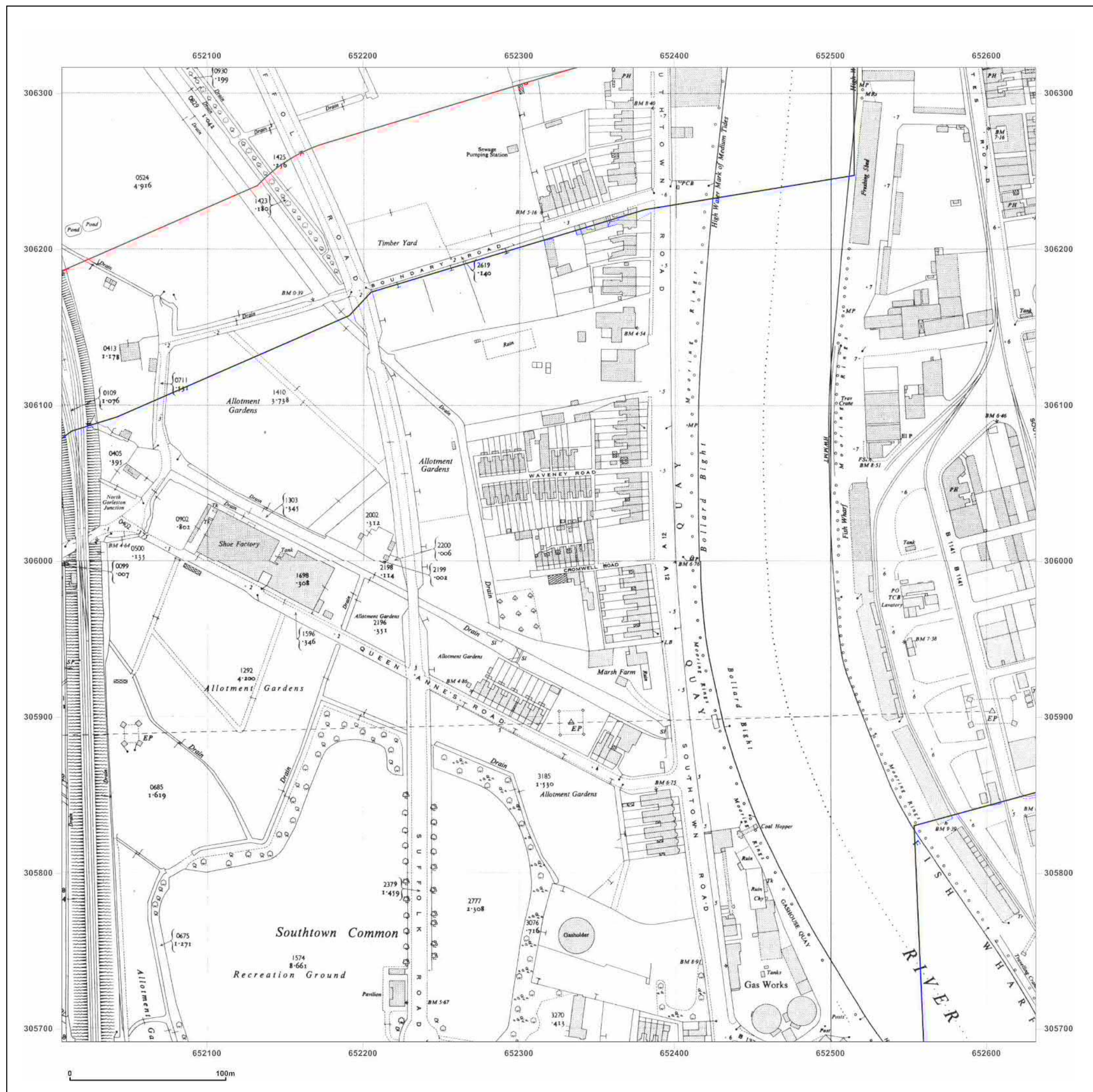
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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_2  
Grid Ref: 652319, 306004

Map Name: National Grid  
Map date: 1949  
Scale: 1:2,500  
Printed at: 1:2,500



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Revised 1949  
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Revised 1949  
Edition N/A  
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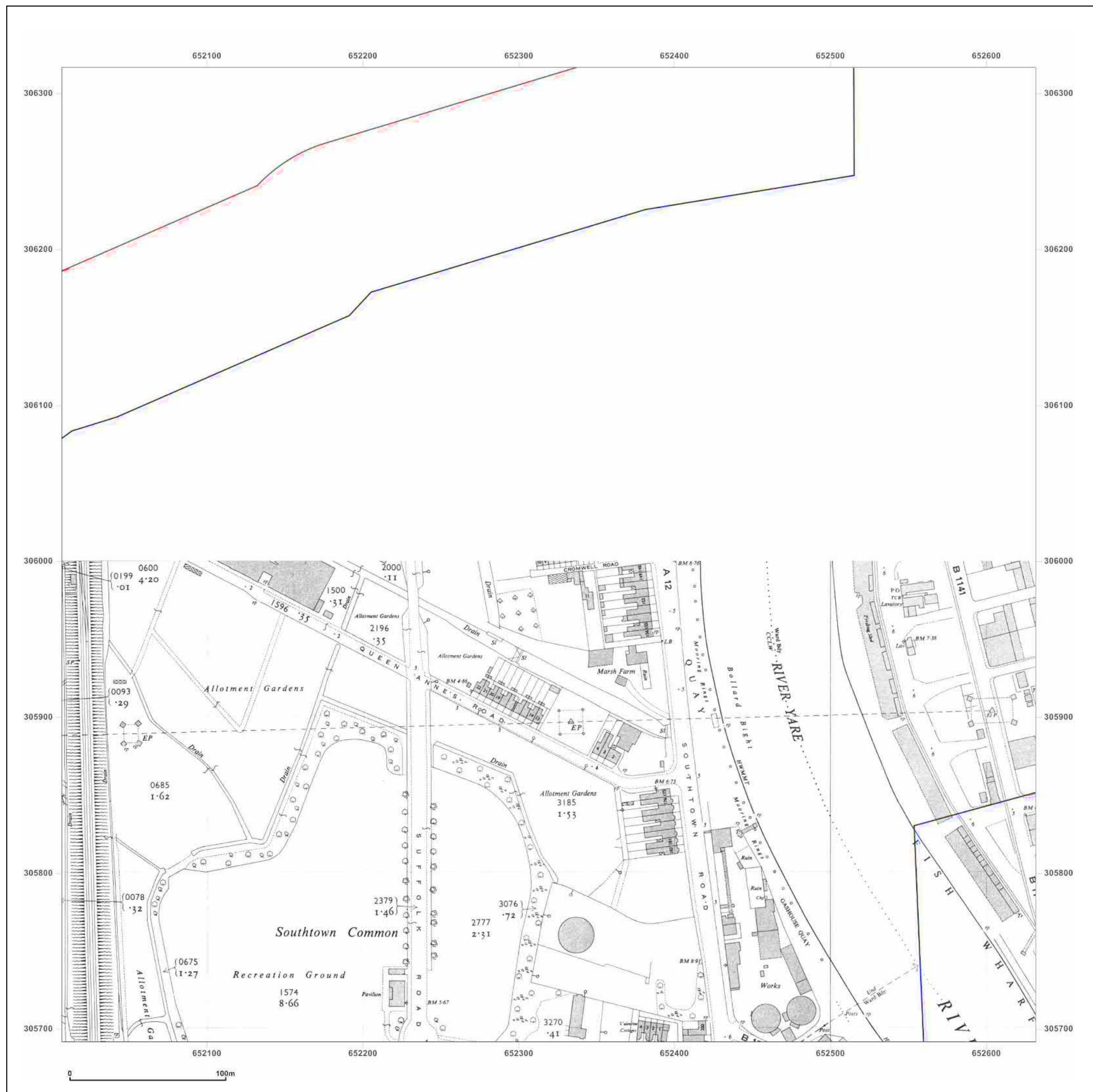
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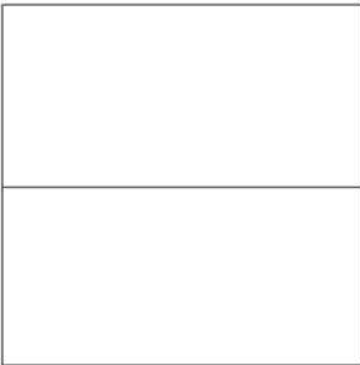




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Grid Ref: 652319, 306004

Map Name: National Grid  
Map date: 1958  
Scale: 1:2,500  
Printed at: 1:2,500



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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_2  
Grid Ref: 652319, 306004

Map Name: National Grid

Map date: 1963-1968

Scale: 1:2,500

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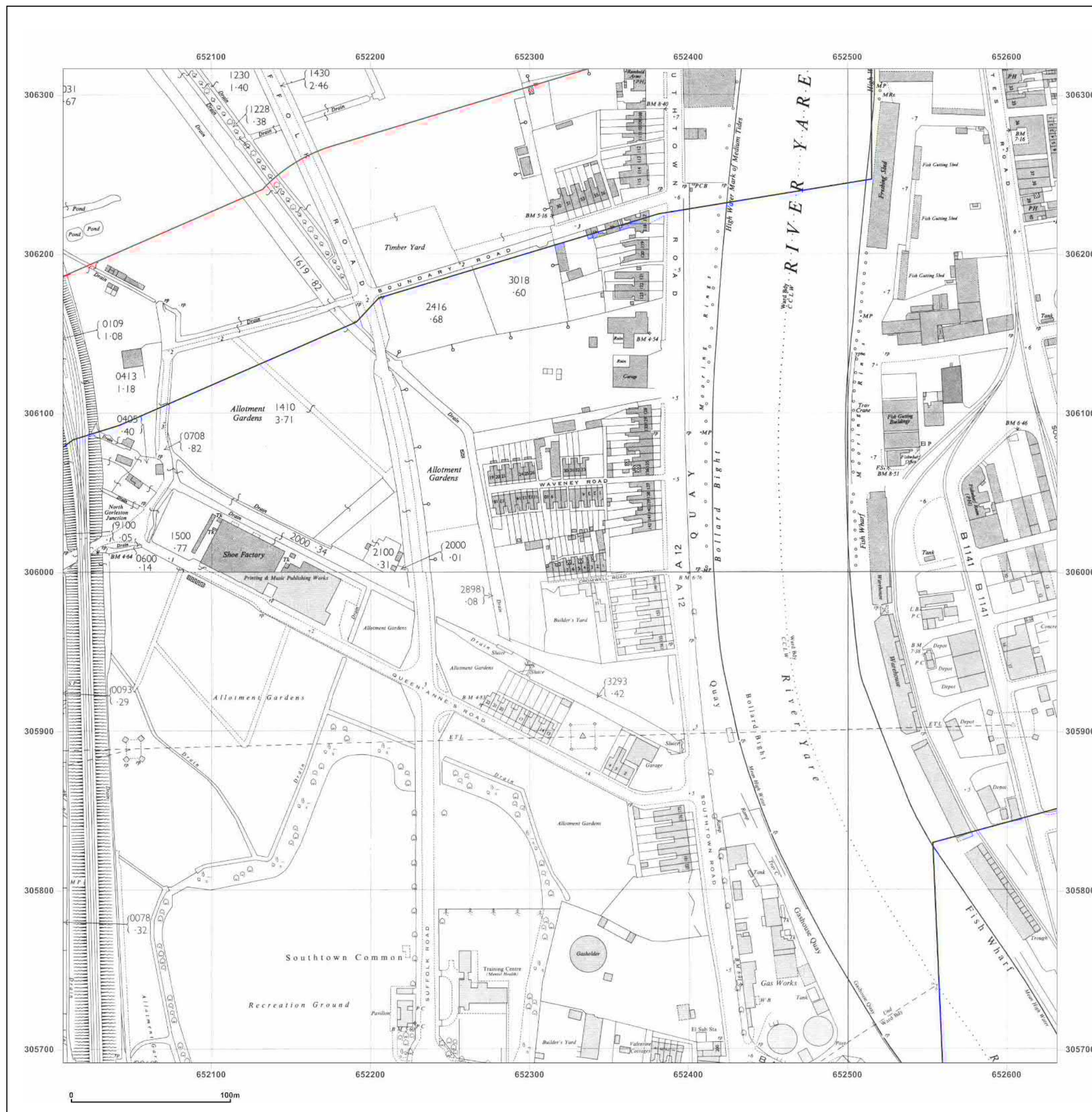


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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_3  
Grid Ref: 652319, 306630

Map Name: County Series

Map date: 1883

Scale: 1:2,500

Printed at: 1:2,500



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#### Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_2\_3  
Grid Ref: 652319, 306630

Map Name: National Grid

Map date: 1963

Scale: 1:2,500

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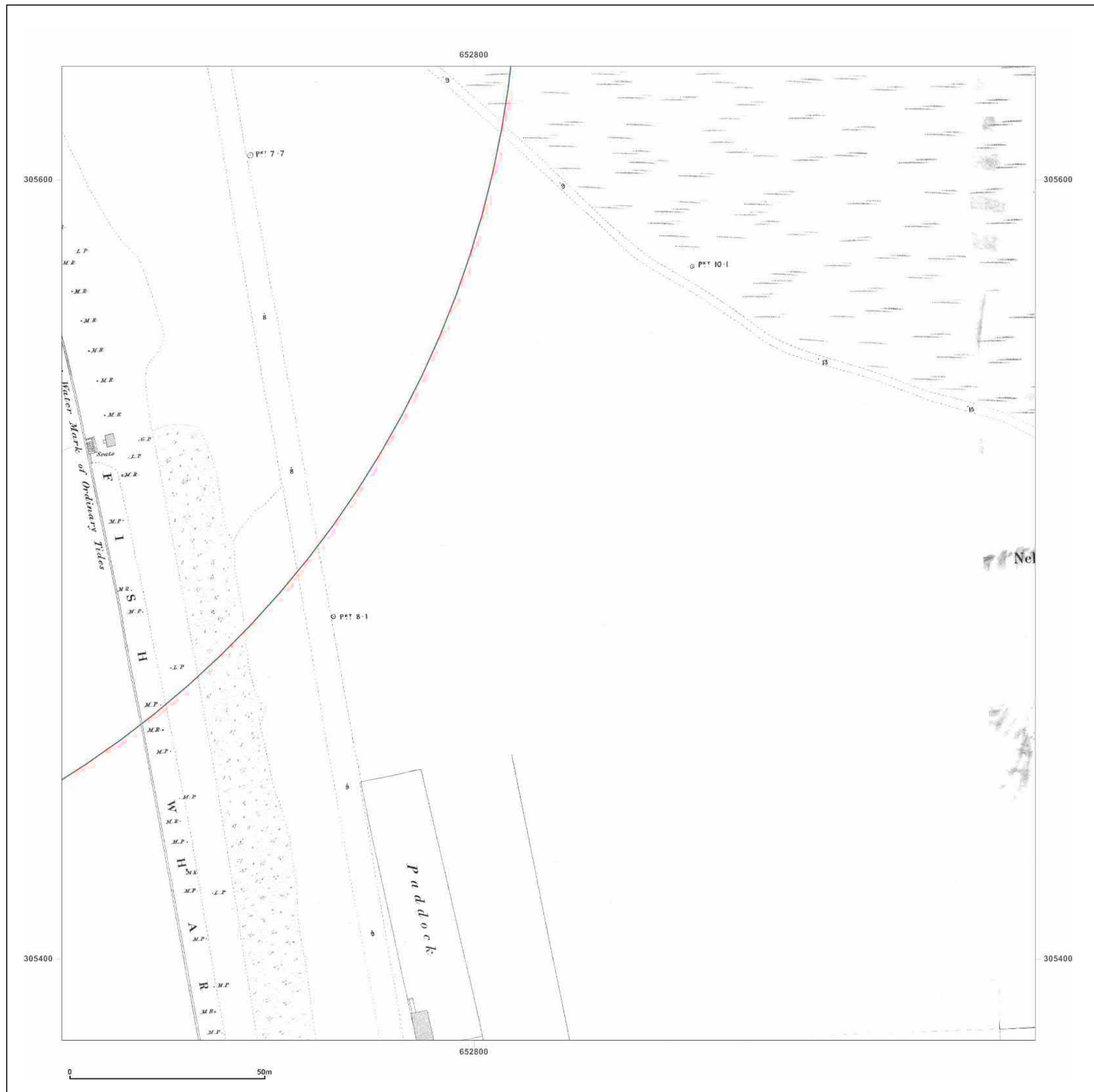
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Site Details:

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Report Ref: CMAPS-CM-636391-16287-030717HIS\_1250scale  
Grid Ref: 652819, 305504

Map Name: County Series Town Plan  
Map date: 1884-1885  
Scale: 1:500  
Printed at: 1:1,000



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#### Site Details:

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**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652819, 305504

**Map Name:** National Grid

**Map date:** 1957-1958

**Scale:** 1:1,250

**Printed at:** 1:2,000



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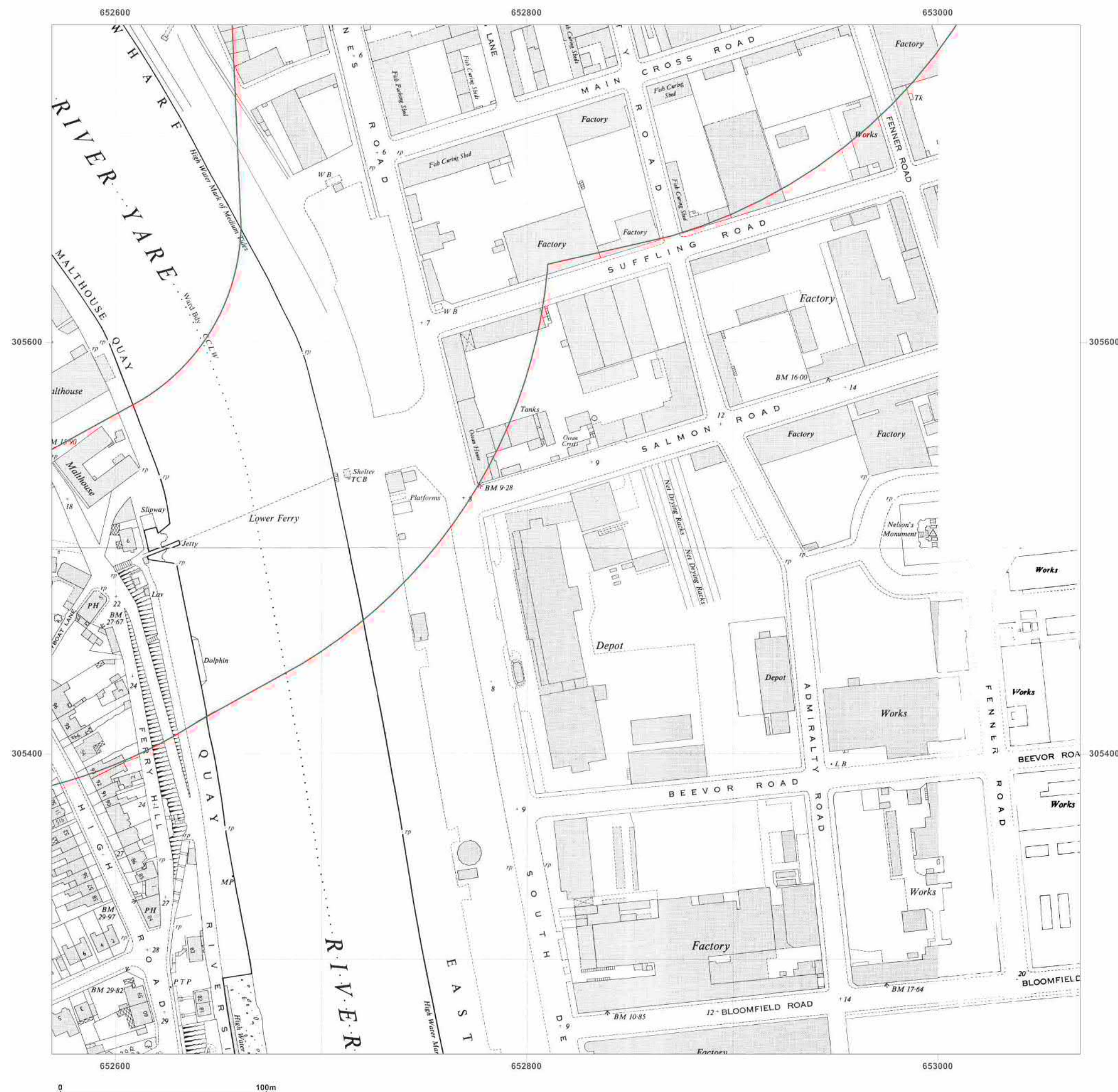


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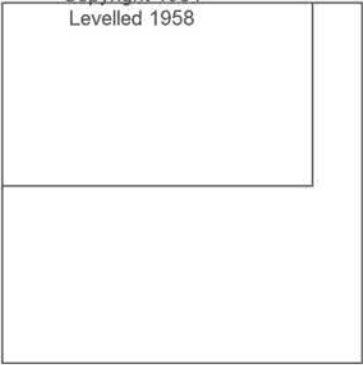
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Map date: 1984  
Scale: 1:1,250  
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**Report Ref:** CMAPS-CM-636391-16287-030717HIS\_1250scale  
**Grid Ref:** 652819, 305504

**Map Name:** National Grid

**Map date:** 1994

**Scale:** 1:1,250

**Printed at:** 1:2,000



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Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_3\_2  
Grid Ref: 652945, 306004

Map Name: County Series  
Map date: 1883  
Scale: 1:2,500  
Printed at: 1:2,500



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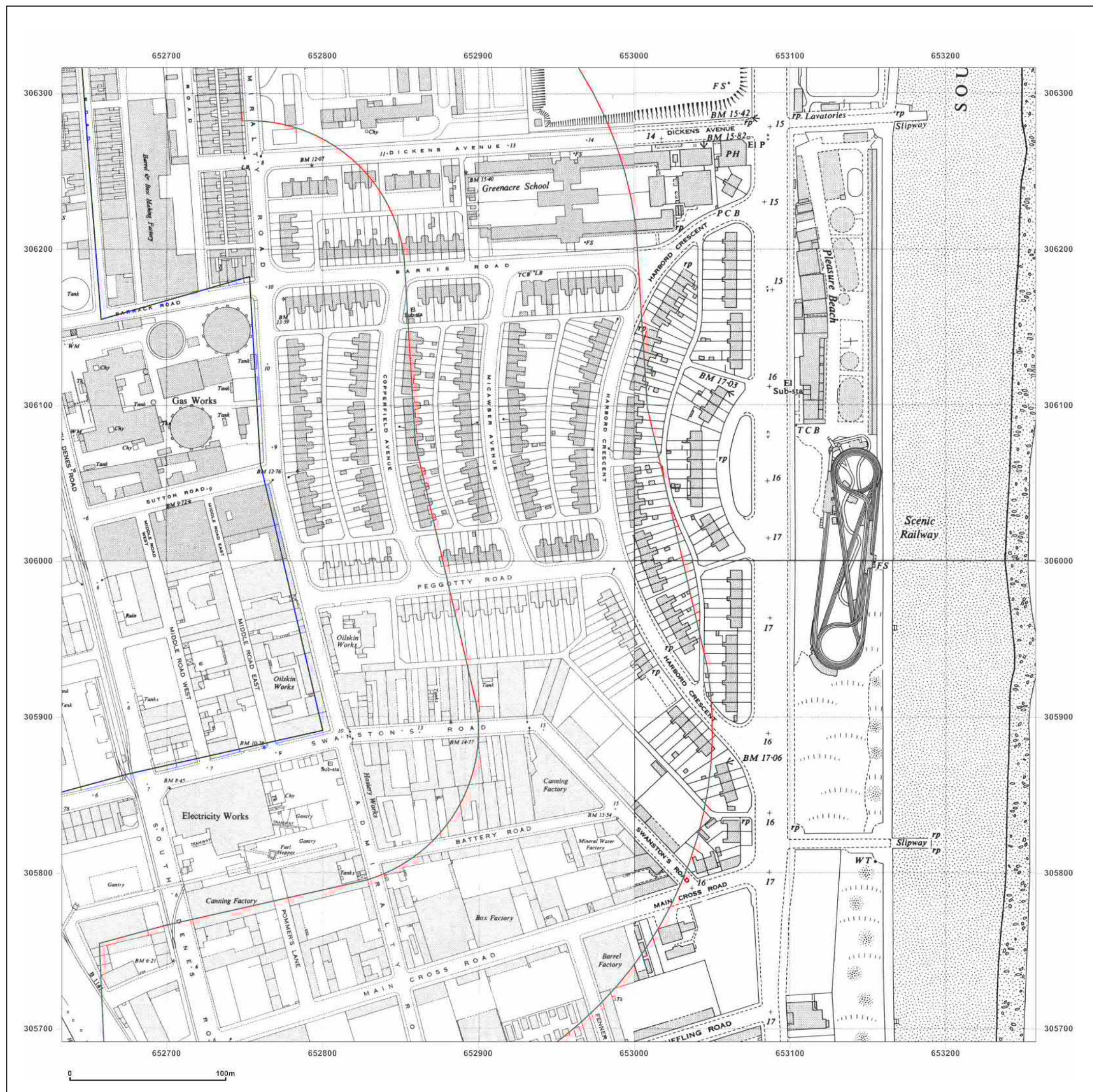
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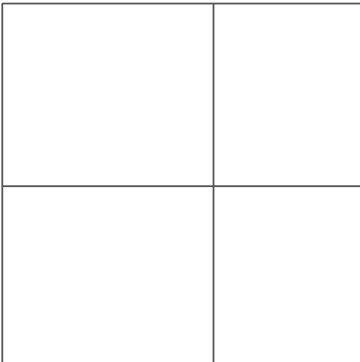
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Grid Ref: 652945, 306004

Map Name: National Grid  
Map date: 1949  
Scale: 1:2,500  
Printed at: 1:2,500



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Site Details:

Client Ref: 16287  
Report Ref: CMAPS-CM-636391-16287-030717HIS\_LS\_3\_2  
Grid Ref: 652945, 306004

Map Name: National Grid  
Map date: 1958  
Scale: 1:2,500  
Printed at: 1:2,500



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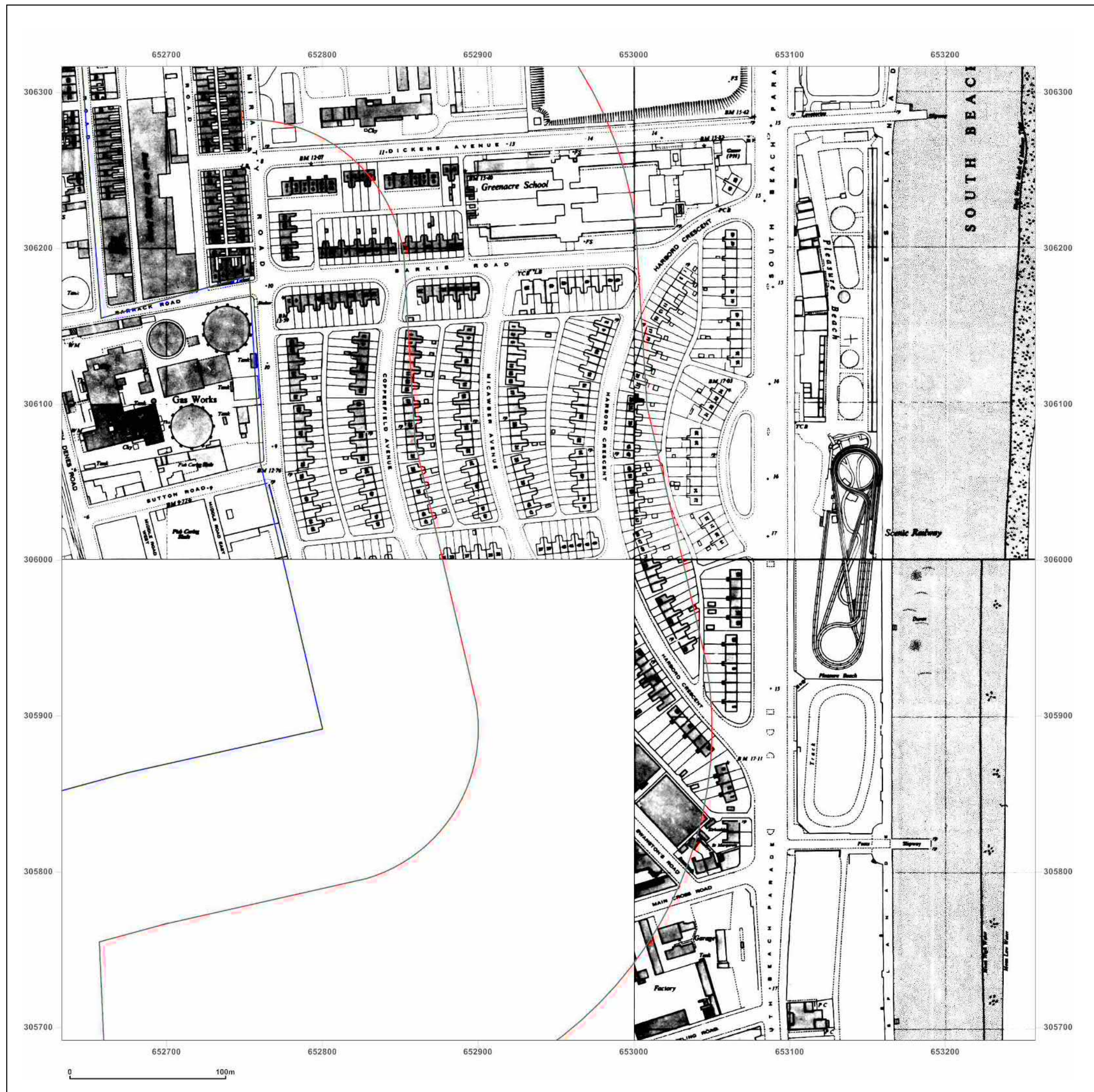
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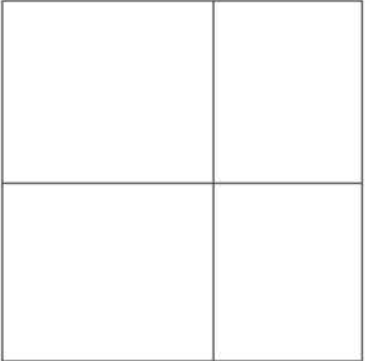
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Map Name: National Grid  
Map date: 1965-1969  
Scale: 1:2,500  
Printed at: 1:2,500



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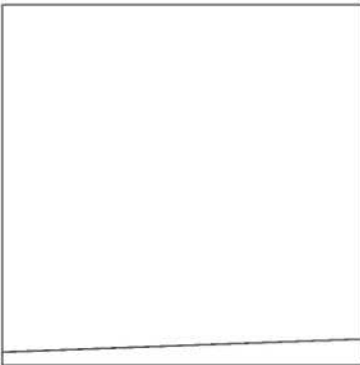
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Grid Ref: 652945, 306630

Map Name: County Series  
Map date: 1883  
Scale: 1:2,500  
Printed at: 1:2,500



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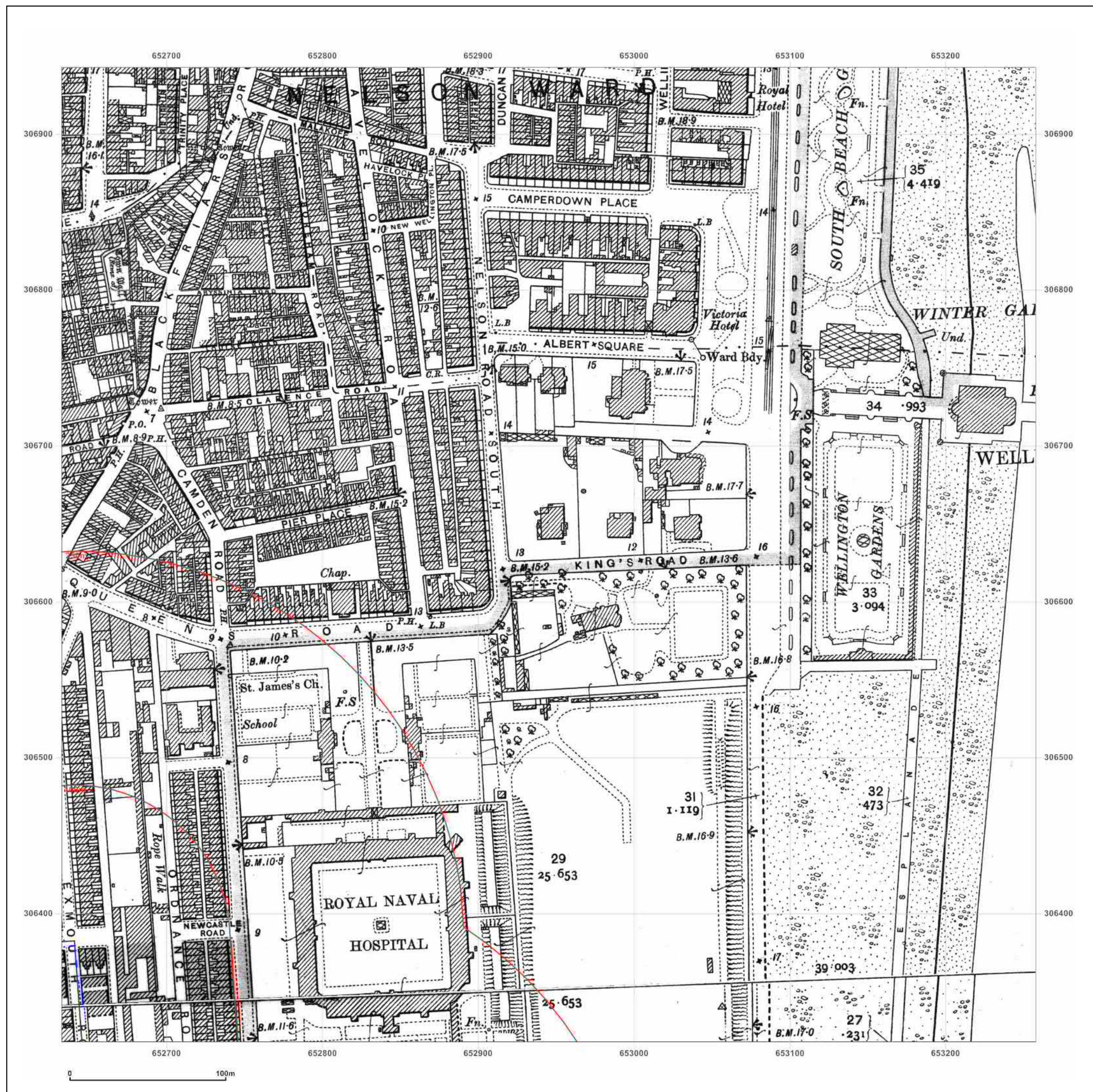
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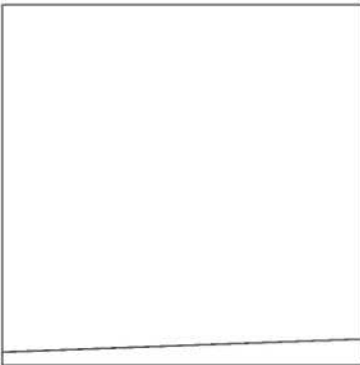
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Map date: 1905-1906  
Scale: 1:2,500  
Printed at: 1:2,500



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Grid Ref: 652945, 306630

Map Name: National Grid

Map date: 1949

Scale: 1:2,500

Printed at: 1:2,500



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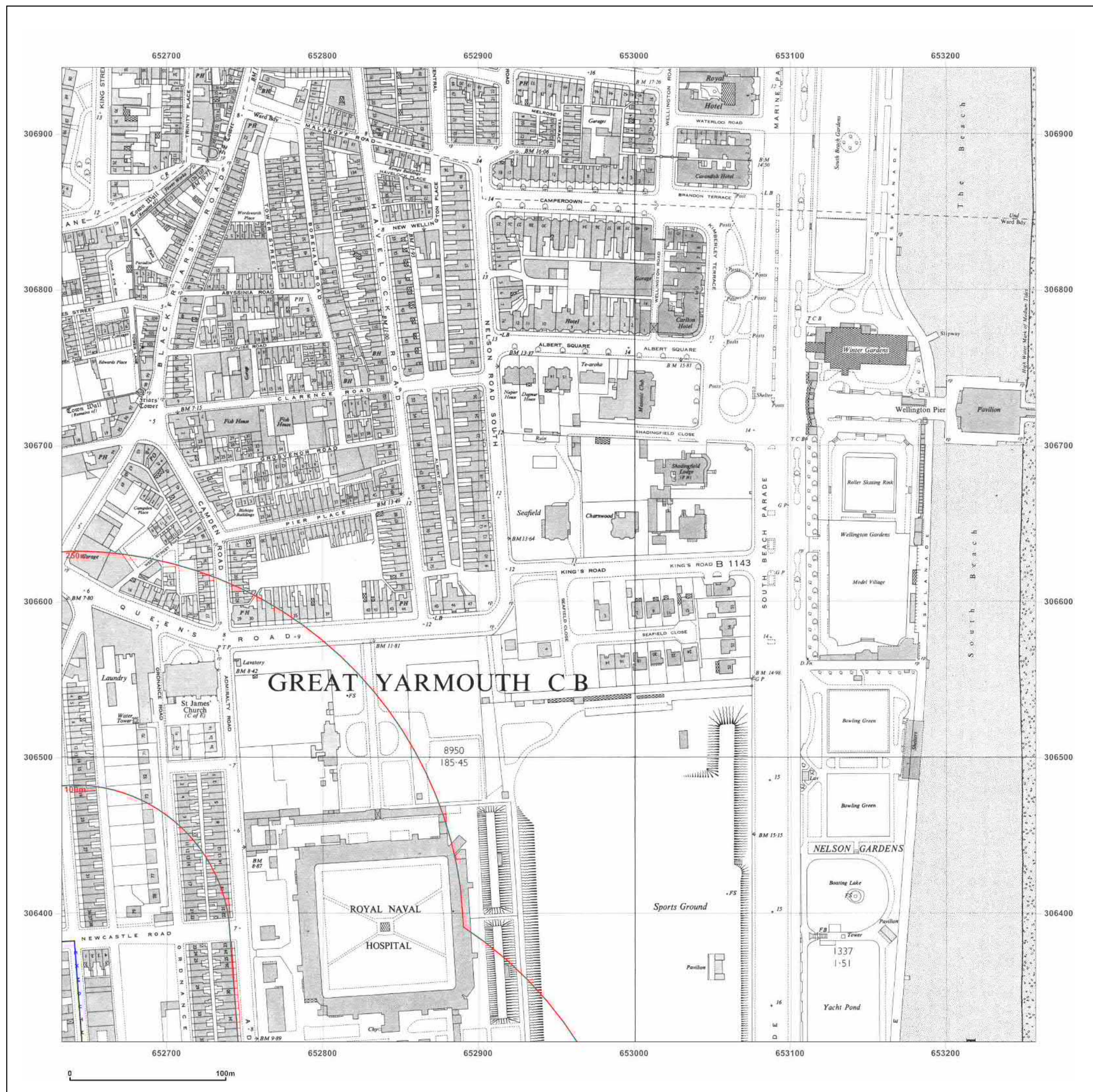
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Grid Ref: 652945, 306630

Map Name: National Grid

Map date: 1963

Scale: 1:2,500

Printed at: 1:2,500



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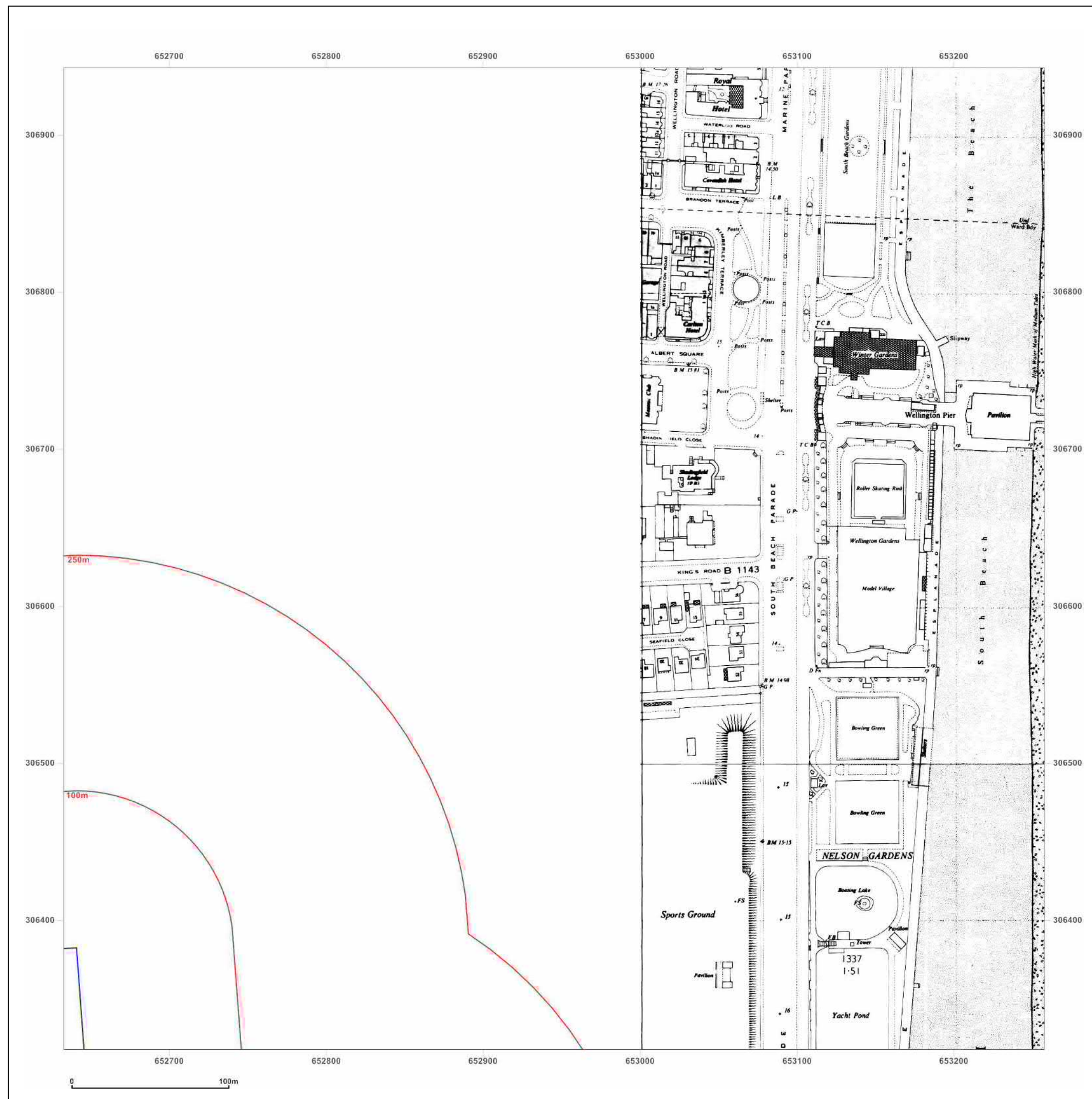
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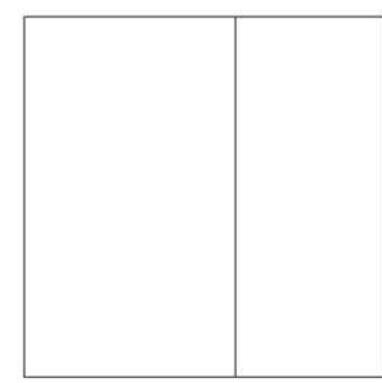




Site Details:

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Grid Ref: 652945, 306630

Map Name: National Grid  
Map date: 1965  
Scale: 1:2,500  
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## Annex C: Site History

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Map	Scale.	On Site	Off Site
1958	1:10,560	No significant changes.	No significant changes.
1958	1:2,500	No significant changes.	No significant changes.
1965	1:2,500	Partial coverage. Fish canning factories labelled in the eastern area waterfront.	No significant changes.
1963-1968	1:2,500	In the eastern area, a haulage depot is marked adjacent to the gas works and one of the fish curing factories is now labelled as a chemical factory. In the western area, the shoe factory is partly labelled as a printing and music publishing works.	No significant changes.
1966-1968	1:1,250 / 1:2,000	Along the northern boundary, three garages are marked.	No significant changes.
1970-1975	1:1,250 / 1:2,000	A builders merchants is marked towards the north west corner.	An oil pipeline construction depot is marked close to the north west corner.
1975-1977	1:1,250 / 1:2,000	The two gas holders on the southern boundary gasworks are no longer marked and the site is labelled as a depot.	No significant changes.
1976-1981	1:1,250 / 1:2,000	No significant changes.	No significant changes.
1978	1:10,000	Former boat building yard in the east area is now developed as a warehouse. The gasworks in the west area adjacent to the River Yare is no longer marked but one gas holder is marked nearby. Factory and works have been developed on the western boundary. The railway line towards the western boundary is marked as dismantled.	The hospital has been renamed St Nicholas Hospital. Significant development in most directions; – to the south east development appears to be commercial industrial; to the north a school and depots are now marked and the saw mill is now labelled as a timber shed; to the west a large number of commercial / industrial buildings and now marked with three labelled as warehouses. The railway to the north and south is labelled as dismantled.
1975-1978	1:1,250 / 1:1,2000	Precast concrete works labelled in the north west corner of the site.	At this scale, the commercial / industrial buildings are labelled as factory, warehouse, works, store, workshop and depot. No further indication of use is provided. A works adjacent to the north west corner of the site includes a number of tanks.
1984-1986	1:1,250 / 1:1,2000	No significant changes.	Two large tanks are marked close to the southern boundary of the eastern area.
1988	1:10,000	Some layout changes have occurred in the eastern area and three depots are labelled. Two gas holders are still marked. In the western area, the route of the railway is being developed as a dual carriageway and the large roundabout currently in the centre of the site is marked including the spur roads off to the east and west. Formal gardens are now marked as a recreation ground but do also include an adult training centre.	The commercial / industrial buildings to the west are labelled as Harfreys Industrial Estate and the depots to the north are now marked as Yarmouth Business Park. A dual carriageway follows the route of the former railway offsite to the north west.

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## Annex D: Zetica UXO Risk

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# 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.

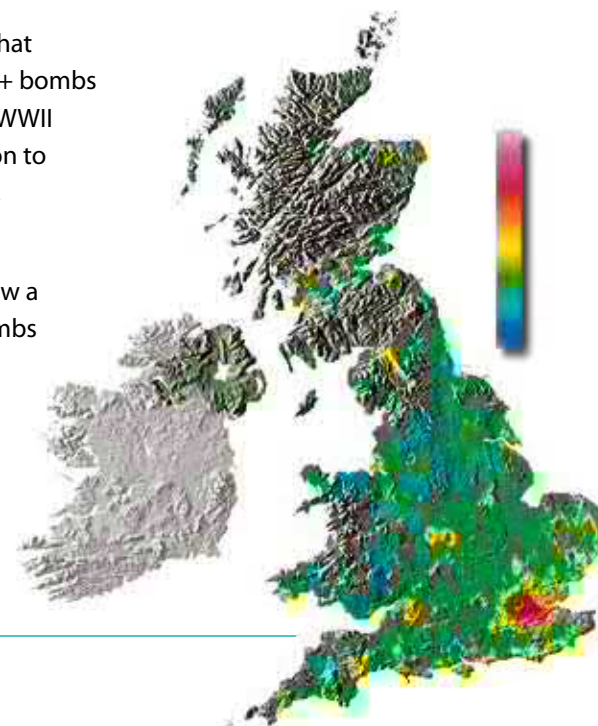
### Low risk

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.

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## Annex E: Risk Classification Matrixes

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### Probability of Risk Being Realised (C552 CIRIA, 2001)

Probability of risk being realised	
Classification	Definition
<b>High Likelihood</b>	There is a pollution 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.
<b>Likely</b>	There is a pollution 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 is not inevitable, but possible in the sort term and likely over the long term.
<b>Low Likelihood</b>	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
<b>Unlikely</b>	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

### Risk Classification Matrix (C552 CIRIA, 2001)

Risk classification matrix					
(CIRIA C552, 2001, page 82)		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/Low	Low	Very Low
	Unlikely	Moderate/Low	Low	Very Low	Very Low

### Risk Classification Definitions (C552 CIRIA, 2001)

Risk classification definitions	
<b>Very High</b>	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
<b>High</b>	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
<b>Moderate</b>	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
<b>Moderate / Low</b>	
<b>Low</b>	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
<b>Very Low</b>	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.