



TEMPLE MEMORIAL PARK, SOUTH SHIELDS

PHASE I – DESK TOP STUDY



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EXECUTIVE SUMMARY

Site Address	Temple Memorial Park, John Reid Road, South Shields, NE34 8QN
Site Description	The development area is roughly rectangular shaped encompassing an area of 18.13 Ha. Currently the entire site comprises of recreational land with paths/walkways and several sports pitches. The site is predominantly grassed and flat with several undulations of rough vegetated ground.
Site History	The site remained undeveloped however has had many different land uses including landfills until approximately 1994 when the site returned to recreational land. The site is generally surrounded by roads, residential properties and the remaining sections of Temple Memorial Park. The area surrounding the site has been extensively mined; both with quarries and underground coal mining techniques.
Proposed End Use	It is understood that the site will be levelled and a new rugby/cricket club constructed with associated areas of soft landscaping and car parking.
Environmental Setting Landfill and Waste	According to the information provided in the Groundsure report there are several landfills and waste sites within 1 km of the site. A total of three licensed landfills were recorded on-site and a further two off-site. A further five licensed waste sites were recorded within 1 km of the site. As well as two refuse tips within 1 km of the site.
Geology	The site is located on solid geology of the Pennine Middle Coal Measures; comprising mudstone, siltstone and sandstone. The site lies within an area of the Pelaw Clay Member.
Mining	The site is in a surface area that could be affected by underground mining in 6 seams of coal at 300m to 480m depth, and last worked in 1969. Any movement in the ground due to coal mining activity should have stopped. There are no known coal mine entries within, or within 20 metres of, the boundary of the property. The development area lies within a 'development high risk area' therefore a 'Coal Mining Risk Assessment' should be supplied.
Hydrogeology	The solid geology is classified as a Secondary Aquifer A – to the west of the site & Principal Aquifer – to the east of the site. Whilst the superficial deposits are unproductive.
Hydrology	The nearest surface water feature (ponds) is 76m north west of the site.
Radon Gas	No radon protection measures are required for new buildings on site.
Preliminary Geotechnical Assessment	The desk study has shown that the site is likely to have some moderate geotechnical risks associated with it.
Preliminary Contamination Assessment	The desk study has shown that the site is likely to have been exposed to moderate landfill contamination.
Risk Assessment	Based on the information contained in this report, it is the opinion of JCC that the site represents a moderate environmental risk in regard to ground contamination, low risk in regard to controlled waters and a moderate risk in regard to ground gas generation.
Phase two recommendations	It is recommended that a series of trial pits and/or drillholes are carried out on site in order to confirm the extent of the made ground on site and to enable the systematic collection of geoenvironmental and geotechnical samples for laboratory testing. The ground gas regime on site shall be classified with a ground gas monitoring campaign following the intrusive investigation.

1 INTRODUCTION

In August 2017, JCC was commissioned by Tolent Construction to carry out a Phase I – Desk Top Study at a site in South Shields. This was required to obtain geotechnical and geoenvironmental information for a proposed redevelopment of the site.

This desk study has been prepared in accordance with British Standards BS5930:1999+A2:2010 and BS10175:2011+A1:2013 and all normative references, including Environment Agency guidance report CLR11: *Model Procedures for the Management of Land Contamination*.

The desk study presents and discusses the available data obtained for the site and surrounding area regarding its physical, historical and environmental setting. It identifies the potential issues at the site, develops an initial conceptual site model (CSM) for geoenvironmental considerations and provides an assessment of geotechnical aspects and other pertinent ground hazards that could affect the development.

1.1 SCOPE

The principal objective of this investigation and the context of the CSM developed within this report is to provide an assessment of potential significant risks in order to:

- Assess the potential requirements for further mitigation or investigation of land contamination risks to ensure that the proposed development will be 'suitable for use'
- Give an account of the anticipated ground conditions at the site based upon published geological and hydrogeological information
- Provide an account of any past/historic mining activities on or near the site which may pose a geotechnical risk to the proposed work

1.2 LIMITATIONS

1.2.1 GENERAL

This Report has been prepared by James Christopher Consulting ('JCC') with all reasonable skill and care, within the terms and conditions of the contract between JCC and the Client ("Contract") and within the limitations of the resources devoted to it by agreement with the Client. Any reliance upon the Report is subject to the Contract terms and conditions.

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Whilst every effort has been made to ensure the accuracy of the data supplied and any analysis interpretation derived from it, the possibility exists of variations in the ground and groundwater

conditions around and between the exploratory positions. No liability can be accepted for any such variations in these conditions. Furthermore, any recommendations are specific to the development as detailed in this Report and no liability will be accepted should they be used for the design of alternative schemes without prior consultant with JCC.

2 SOURCES OF INFORMATION

The following sources of information have been used in preparation of this report:

- Extracts of available historical Ordnance Survey (OS) maps covering the period from 1855 to 2014 which are presented in Appendix B.
- A Groundsure Report produced by Groundsure Insights for an area up to 1 km from the centre of the site which is reproduced in Appendix C. The Groundsure Report is compiled from the database of information maintained by various statutory bodies listed within Appendix C.
- The British Geological Survey (BGS) website.
- A Mining Report was obtained from the Coal Authority (CA) which is reproduced in Appendix D.
- A site walkover undertaken on the 19th April 2017.

3 SITE LOCATION AND DESCRIPTION

3.1 SITE LOCATION

Temple Memorial Park is located between John Reid Road and Nevinson Avenue which borders King George Road, South Shields; see Site Location Plan (Appendix A). Temple Memorial Park lies approximately 2.5 miles south of South Shields Centre and 7.3 miles east of Gateshead centre. The site is at National Grid reference 436769, 563402.

3.2 SITE DESCRIPTION

The development area is roughly rectangular shaped with some irregularities in shape encompassing an area of 18.13 Ha. Currently, the entire site comprises recreational land with paths/walkways and several sports pitches evenly spread across the site. The site is predominately grassed and flat to the south with several undulations and areas of rough ground situated to the north of the site. These undulations tend to be unkempt and overgrown with several trees of varied species; there are several paths between which are regularly cut by the local authority.

The site contains many gravel paths which pass through the site providing access to pedestrians from the north and south linking the site with the Temple Park Leisure Centre, surrounding roads and the remaining sections of the Temple Memorial Park situated to the north/west side.

Immediately to the north of the site lies Temple Park Leisure Centre which is accessed from John Reid Road and egressed via King George Road. To the north/west side of the site the continuing section of Temple Memorial Park remains intact and functional. Beyond these immediate features, the surrounding area is predominately residential with the exception of several local schools, the District Hospital and Community Fire Station.

4 PROPOSED DEVELOPMENT

From information provided by Tolent Construction it is understood that the site will be generally levelled and a new rugby/cricket club constructed with associated areas of soft landscaping and car parking. There are to be several new cricket, rugby and football pitches surrounding the proposed clubhouse.

5 PHYSICAL AND HISTORICAL SETTING

5.1 HISTORICAL LAND USAGE

The development of the site and surrounding area has been reviewed by reference to the historical maps and is summarised in Table 1 overleaf.

OS Map Edition	On-site Features	Off-site Features
1855 1:10,560	The site is undeveloped.	There are various detached farm houses located approx. 300-450m from the site boundary (North Pasture, Long Loaning & Holder House). Cleadon limestone quarry is shown approx. 900m and onwards east of the site this includes Cleadon Laws, Cleadon Cottage & Cleadon Out House. Approximately 750m north west of the site lays Harton & Whitburn Colliery. There is evidence of a small pond or collection of water close to the north boundary of the site.
1895 1:10,560	The site is undeveloped. There is now evidence to suggest the west side of the site was used as part of a 1000 yard rifle range with targets terminating within the site.	Cleadon quarry remains approx. 900m east of the site. Cleadon cottage becomes Cleadon Park & Cleadon Out House becomes Cleadon Park Farm. South of the quarry Cleadon pumping station is now evident. Approximately 700m to the south west of the site Whiteleas hospital for infectious diseases this backs onto the Whiteleas brick works. Approximately 700m to the west of the site there is now evidence of West Harton brick works. Approximately 850m west of the site lays 'Harton Branch' railway. This railway likely linked the local brickworks and mining industries to the Tyne Dock port. Between approx. 500-750m north west of the site now lays South Shields Union Workhouse, schools and hospital.
1921 1:10,560	The site is undeveloped. The rifle range appears to be no longer in use.	Cleadon quarry appears to be inactive (referred as 'old quarry') approx. 900m east of the site. Cleadon pumping station remains south of the quarry. Whiteleas hospital has undergone various changes and appears spread out as opposed to one large block. Approximately 750m north west of the site lays 'Harton Colliery Railway'. These railways likely linked the local industries to the Tyne Dock port. The former brickworks appear disused however the land appears scared. The surrounding areas of Harton & Harton Colliery appear generally more built-up with several streets of residential housing.
1938 1:10,560	The site is undeveloped.	Cleadon quarry approx. 900m east of the site is shown as disused. The immediate east of the site has now been massively built-up with several streets of residential housing and various schools with the addition of the 'King George Road' which abuts the eastern boundary of the site. North of the site abutting the King George Road a church has now been constructed. The surrounding areas of Harton & Harton Colliery appear generally more built-up with many more streets of residential infill housing. Approximately 750m

		west of the site there is now detached school.
1951 1:10,560	The site is undeveloped. There is now evidence of a woodland area to the north side of the site.	Cleadon quarry is now a recreational area classed as Cleadon park approx. 900m east of the site. Cleadon pumping station now appears redundant and the land has been developed. West Harton brickworks located approximately 700m west of the site has now been developed into a cricket ground. Immediately north of the site abutting the church now lays Harton Moor golf course with clubhouse south of the church. Approximately 300m north west of the site south of North Pasture appears to have some minor development occurring. Immediately south of the site until meeting Holder House situated 300m south of the site has been developed into allotment gardens. The school situated approx. 550m north of the site has now become the Junior Instructional Centre. The south shields union workhouse and hospital located 700m north west of the site has now become Harton Institution & General Hospital and expanded somewhat further south. There is now evidence of some small agricultural buildings approx. 300m north of the site. Approx. 550m south east of the site there is now a public house called the ship inn.
1959 1:1,250	No apparent changes.	The area of Whiteleas has been developed somewhat with mainly residential streets with the addition of Nevinston Avenue which later continues to form the southern boundary to the site. The Temple Park County Junior School located approx. 150m west of the site is now denoted including whistler gardens a residential street which continues to the western boundary of the site..
1968 1:10,560	The site is undeveloped. There is now evidence of a larger section of woodland area to the north side of the site and some divided sections located central/east of the site.	The cricket ground approximately 700m west of the site has now been stripped back and become Lewis Gardens. The area of Whiteleas situated immediately south west of the site has been significantly developed with mainly residential streets, churches and school buildings. Harton Moor Golf Course located immediately north of the site is no longer operational and is now recreational land and playing fields. The clubhouse therefore becoming the hall to the existing church. Harton Colliery situated approx. 750m north west of the site has now become various sports grounds.
1966-1969 1:1,250	No apparent changes.	Immediately to the north of Temple Memorial Park, John Reid Road now forms the boundary with the removal of North Pastures Farm. The Temple Park County Junior School playing fields located approx. 150m west of the site now continue to the boundary of the site.
1974 1:10,000	No apparent changes.	Temple Memorial Park is now annotated and is shown to have the same boundaries as today. Nevinston Avenue now continues perpendicular to King George Road. The surrounding areas of Harton, Harton Nook, Cleadon Park and Whiteleas are now completely developed and remain unchanged today. Immediately

		to the north of Temple Memorial Park, John Reid Road now forms the boundary. The north side of John Reid Road has now been developed with various residential streets and schools. Immediately south of the site a section of Temple Memorial Park appears to be elevated and built up bordering Nevinson Avenue.
1985 1:10,000	The site is undeveloped. There are now several footpaths shown across the site joining the leisure centre and the rest of the park. There also seems to be a woodland area south east of the site and the previous woodland area is no longer denoted.	Immediately to the north of the site a section of the Temple Memorial Park has now been developed into a leisure centre with associated playing fields, car parking and access roads.
1993 1:1,250	No apparent changes.	Temple Park Leisure Centre has now been extended, doubling in size. There is now a playground shown east of the centre however there is no evidence the small pond or collection of water close to the north boundary of the site remains however they still remain today within the playground area.
2002 1:10,000	No apparent changes.	The surrounding area remains very much unchanged. North of the site, the general hospital has increased in size with various new buildings and extensions. Approximately 300m north west of the site a fire station has been constructed on the Temple Memorial Park site boundary with John Reid road.
2010 1:10,000	No apparent changes. The site is now denoted as 'Recreation Ground'.	No apparent changes.
2014 1:10,000	No apparent changes.	No apparent changes.

Table 1 – Summary of site history**5.2 PUBLISHED GEOLOGY**

The BGS Geology of Britain Viewer (2014) indicates that the site lies within an area of the Pelaw Clay Member. The solid geological deposits below the development site are recorded as the Pennine Middle Coal Measures; comprising mudstone, siltstone and sandstone.

5.3 GEOLOGICAL HAZARDS

Information on various geological hazards is contained within the Groundsure report where the risks are classified between no data being supplied to a high risk geological hazard. Based on this information the site is categorised as follows.

HAZARD	RISK CATEGORY
Shrink Swell Clay	LOW
Landslides	VERY LOW
Ground Dissolution of Soluble Rocks	VERY LOW
Compressible Deposits	VERY LOW

HAZARD	RISK CATEGORY
Collapsible Deposits	VERY LOW
Running Sand	VERY LOW
Ground Workings – on site	YES – Historic Surface Ground Workings (unspecified heap)
Mining, Extraction and Natural Cavities – on site	NO – The closest mineral site is located 532m west of the site.

Table 2 – Summary of geological risks

5.4 MINING, EXTRACTION AND NATURAL CAVITIES

The available data indicates that there have been 9 different mineral extraction sites within 1 km of the site; of which all are ceased. These include collieries, air shafts and unspecified mining features.

According to the Coal Authority Report:

- The site is in a surface area that could be affected by underground mining in 6 seams of coal at 300m to 480m depth, and last worked in 1969.
- Any movement in the ground due to coal mining activity should have stopped.
- The property is in an area where the Coal Authority believes there is coal at or close to the surface.
- The property is not within a surface area that could be affected by present underground mining.
- The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.
- The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.
- The property is not in an area likely to be affected from any planned future underground coal mining.
- There are no known coal mine entries within, or within 20 metres of, the boundary of the property.
- The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.
- The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.
- The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.
- There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.
- The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.
- The Coal Authority has no record of a mine gas emission requiring action.

5.5 HYDROGEOLOGY AND GROUNDWATER ABSTRACTION

The hydrogeological characteristics of the site are summarised below:

CHARACTERISTIC	OBSERVATIONS
Aquifer Classification within bedrock	Secondary Aquifer A – West side of site Principal Aquifer – East side of site
Aquifer Classification within superficial deposits	Unproductive

Groundwater/ Potable Water Licence Abstraction	None Identified
Source Protection Zones	Source Protection Zone 2 – East side of site

Table 3 – Hydrogeological characteristics**5.6 HYDROLOGY, FLOODING AND SURFACE WATER ABSTRACTION**

Information on the hydrological characteristics of the site are summarised below:

CHARACTERISTIC	OBSERVATIONS
Surface Water Features / River Network	The closest surface water feature is 76m to the north west. The closest river (tertiary) is 550m to the south.
River Quality (Biological and Chemical)	No 'Pollution Incidents to Controlled Waters' have been recorded as occurring within 1km of the site.

Table 4 – Hydrology characteristics**5.7 GROUND GAS****5.7.1 RADON**

The development site is located within a Radon Affected Area as defined by the Health Protection Agency (HPA), as between 1 and 3% of properties are above the action level. Consequently, in accordance with BR211 no radon protection measures are necessary.

5.7.2 MADE GROUND

Historical made ground is expected on site. Gasses such as methane and carbon dioxide in specific volumes can be classed as contamination.

5.7.3 LANDFILL

Records from Environment Agency/Natural Resources Wales landfill data confirm there are several landfills within 1000m of the study site. A total of three were recorded on-site with a further two recorded within 1000m of the study site.

6 ENVIRONMENTAL SETTING**6.1 DESIGNATED ENVIRONMENTALLY SENSITIVE SITES**

In the context of this report sensitive land usage covered by the Groundsure report includes the following:

- Areas of Adopted and Unadopted Green Belt
- Sites of Special Scientific Interest (SSSI) and Ramsar.
- Local and National Nature Reserves (LNR, NNR,).
- Special Protection Areas (SPA) and Special Areas of Conservation (SAC).
- World Heritage Sites and Ancient Woodlands.
- Areas of Outstanding Natural Beauty (AONB) and Environmentally Sensitive Areas (ESA).
- Forest and National Parks.
- Nitrate Sensitive Areas and Nitrate Vulnerable Zones (NSA, NVZ).

The Groundsure report confirms there is one area of Green belt land within 2000m of the site at 184m south. There are also three SSSI's within 2000m of the site, the nearest being 1140m east of the site. The report also states there are three LNR's within 2000m of the site, the nearest being 1140m east of the site.

6.2 ENVIRONMENTAL PERMITS, INCIDENTS AND REGISTERS

6.2.1 DANGEROUS OR HAZARDOUS SITES

According to the Groundsure report there are no dangerous or hazardous sites (including COMAH and NIHHS sites) within 1km of the site.

6.2.2 ENVIRONMENT AGENCY RECORDED POLLUTION INCIDENTS

The Groundsure report records no pollution incidences on the National Incidents Recording System (NIRS) located within 1km of the site.

6.3 Landfill and Other Waste Sites

6.3.1 Landfill Sites

According to the information provided in the Groundsure report there are twelve historical landfill sites within 1.5 km of the site. This is summarised in the table below.

Name/Location	Wastes	Status
Temple Park No.2, Temple Park, South Shields. Located on-site. <i>HISTORICAL</i> .	Inert, Industrial & Commercial	Licence surrendered – 23 rd March 1994
Temple Park No.3, Nevinston Ave, Whiteleas. Located on-site. <i>HISTORICAL</i> .	Industrial, Commercial & Household	NOT GIVEN
Temple Memorial Park No.1, John Reid Rd, South Shields. Located on-site. <i>HISTORICAL</i> .	Industrial, Commercial & Household	Licence surrendered – 31 st March 1994
Temple Memorial Park, King George Rd, South Shields. Located 5m south of the site. <i>HISTORICAL</i> .	Inert, Industrial & Commercial	NOT GIVEN
Cleadon Park Quarry, Cleadon Park, South Tyneside. Located 879m east of the site. <i>HISTORICAL</i> .	NOT GIVEN	NOT GIVEN
Tilshed Farm, Tilshed Ln, Boldon. Located 1047m south west of the site. <i>HISTORICAL</i> .	NOT GIVEN	NOT GIVEN
Tilshed Piggery, Tilshed Ln, Boldon. Located 1084m south of the site. <i>HISTORICAL</i> .	NOT GIVEN	NOT GIVEN
Newton Garths, Benton Rd, Whiteleas. Located 1107m south west of the site. <i>HISTORICAL</i> .	Inert, Industrial & Commercial	
Boldon Lane, Tilsheds Ln, South Shields. Located 1232m south west of the site. <i>HISTORICAL</i> .	Inert Waste	Licence surrendered – 21 st November 1985
Newton Garths Extension, Boldon Lane, Boldon. Located 1283m south west of the site. <i>HISTORICAL</i> .	Inert, Industrial & Commercial	NOT GIVEN
Olive Street, Olive Street, West Harton. Located 1413m north west of the site. <i>HISTORICAL</i> .	NOT GIVEN	NOT GIVEN
Newton Garth B, Off Masfield Dr, Whiteleas.	Inert, Industrial,	NOT GIVEN

Located 1483m south west of the site. <i>HISTORICAL.</i>	Commercial & Household	
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Table 6 – Summary of Landfill sites

A further six historical refuse tips were recorded within 1.5 km of the site which are at varied distances between 690 – 1270m away from the site.

There are three recorded non-operational landfill sites within 1.5 km of the site. One which is located 84m south of the site, one 1250m south of the site and one 1449m south west of the site. These seem to be associated with the historical landfill sites which were operational previously.

6.3.2 OTHER WASTE SITES

In addition to the landfill listed in Section 6.3.1, the Groundsure report indicates that there are sixteen waste treatment, transfer or disposal sites within 1.5 km of the site. This is summarised in the table below.

Name/Location	Wastes (Site Category)	Status
Land on Temple Memorial Park, Adj to John Reid Rd. Located 170m west of the site.	NOT GIVEN	Licence surrendered – 31 st October 1978
Land on Temple Memorial Park, Adj to John Reid Rd. Located 170m west of the site.	Household, Commercial & Industrial Waste Landfill	Licence surrendered – 31 st October 1978
Land on Temple Memorial Park, Adj to John Reid Rd. Located 170m west of the site.	Household, Commercial & Industrial Waste Landfill	Licence surrendered – 31 st October 1978
South Tyneside District Hospital, Harton Ln. Located 685m north west of the site.	Clinical Waste Transfer Station	Licence surrendered – 07 th September 1999
Plot A, Cleadon Ln Ind Est, East Boldon. Located 738m south of the site.	Transfer Station taking Non-Biodegradable Wastes	Licence surrendered – 09 th September 2001
East Boldon, Tyne & Wear. Located 1075m south west of the site.	Landfill taking Non-Biodegradable Wastes	Licence surrendered – 31 st March 1994
East Boldon, Tyne & Wear. Located 1075m south west of the site.	NOT GIVEN	Licence surrendered – 31 st March 1994
East Boldon, Tyne & Wear. Located 1075m south west of the site.	Landfill taking Non-Biodegradable Wastes	Licence surrendered – 31 st March 1994
Tilsheds Lane/Boldon Lane, South Shields. Located 1412m south west of the site.	Landfill taking Non-Biodegradable Wastes	Licence surrendered – 21 st November 1985
Tilsheds Lane/Boldon Lane, South Shields. Located 1412m south west of the site.	NOT GIVEN	Licence surrendered – 21 st November 1985
Tilsheds Lane/Boldon Lane, South Shields. Located 1412m south west of the site.	Landfill taking Non-Biodegradable Wastes	Licence surrendered – 21 st November 1985
Throckley Way, Middlefields Ind Est, South Shields. Located 1482m north west of the site.	Household Waste Amenity Site	NOT GIVEN

Land/Premises at Throckley Way, Middlefields Ind Est, South Shields. Located 1482m north west of the site.	Household Waste Amenity Site	NOT GIVEN
Land/Premises at Throckley Way, Middlefields Ind Est, South Shields. Located 1482m north west of the site.	Household Waste Amenity Site	NOT GIVEN
Land/Premises at Throckley Way, Middlefields Ind Est, South Shields. Located 1482m north west of the site.	Household Waste Amenity Site	NOT GIVEN
Tile Shed Farm, Tiledshed Lane, East Boldon. Located 1485m south of the site.	Incinerator	NOT GIVEN

Table 7 – Licensed waste management facilities**6.4 CURRENT LAND USES**

The Groundsure report covers other potential contamination sources close to the site including: Current Industrial Data, Petrol and Fuel Stations and Underground High Pressure Oil and Gas Pipelines.

According to the Groundsure report there are; six individual electricity substations, two pylons, one industrial unit and one petrol/fuel station located within 250m of the site. There is also one further petrol/fuel station located within 500m of the site.

There are no records of any Underground Electricity Cables or High Pressure Oil and Gas Pipelines within 500m of the site.

6.5 CONTAMINATION

According to the Groundsure Report, the BGS estimated soil chemistry is as follows:

Arsenic <15mg/kg, Nickel 15-30mg/kg, Cadmium <1.8mg/kg, Chromium 90-120mg/kg and Lead 100-200mg/kg. All of these levels fall within the LQM/CIEH Suitable 4 Use levels for 'residential with home-grown produce' land use (The LQM/CIEH S4ULS for Human Health Risk Assessment, 2015).

7 INITIAL CONCEPTUAL SITE MODEL**7.1 GENERAL**

In line with existing legislation and the current regime for the management of contaminated land, assessments are undertaken using a risk based approach. It is necessary to define a Conceptual Site Model (CSM) for the site which identifies the potential sources of contamination, the receptors and the pathways that can connect them. In order for there to be a risk from contamination, one or more relevant pollutant linkages must exist, connecting a contamination source, a receptor (an entity which might be affected by the contamination) and a pathway (or mechanism) by which the receptor can be exposed to the contaminant.

A discussion of potential sources, pathways and receptors and a tabulated summary of the CSM indicating potential pollutant linkages follow. The criteria used for assessing the relevance of identified potential pollutant linkages are based on the objectives stated above.

7.2 POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination are usually associated with current and former industrial activities, where the processing, storage, use, transportation and disposal of raw materials, products and wastes often leads to the contamination of underlying ground and groundwater. In addition, natural processes can also give rise to contamination such as hazardous gases.

Based on the information presented above, potential sources of contamination from current and historical site uses and from potentially significant off site sources have been assessed. Potential sources of contamination and contaminants at and within the site boundary are summarised in the table below. These are based in the desk study data obtained and published guidance.

Site Use/ Activity/ Area	Sources	Contaminants
S1 = Generic Made Ground and Hot Spots There are several unspecified/refuse heaps to the south and west of the site as well as within the site boundary. The Groundsure Report also identifies the presence of probable made ground across the site.	Variable volumes of Made Ground	If anthropogenic debris and visual evidence of potential contamination is identified in the made ground, then Potential Contaminants of Concern could comprise: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Zinc, Cyanide, pH, Water Soluble Sulphate, TOC's and Speciated PAH. The developer should implement a watching brief during the redevelopment works and if contamination is identified the work should be stopped, the Local Authority notified and advice should be sought from an appropriately qualified Geo-environmental Engineer.
S2 = Ground Gas Generation	Onsite Made Ground, nearby areas of infilling, potential shallow coal mine workings	Depending on the volume of made ground and nearby areas of infilling as well as the potential for the presence of shallow coal mine workings, ground gas may be generated potentially acting as a source of contamination.

Table 8 – Potential Sources of Contamination

7.3 POTENTIAL MIGRATION PATHWAYS

The following potential pathways have been identified as potential migration pathways.

- Inhalation of indoor/outdoor air (wind-blown particles)
- Dermal/direct contact
- Ingestion (soil and dust)
- Direct contact with building materials
- Surface run-off and infiltration
- Leaching from soils

7.4 POTENTIAL RECEPTORS

Potential receptors have been identified and categorised as follows:

7.4.1 HUMAN HEALTH

- Construction workers
- Future site users
- Maintenance workers
- Offsite receptors

7.4.2 CONTROLLED WATERS

- Bedrock is a predominantly Secondary A to the west side of the site with Principle Aquifer to the east side of the site
- The closest surface water feature (ponds) to site is 76m north west of the site
- The closest river (tertiary) is 550m to the south

7.4.3 ENVIRONMENTAL RECEPTORS

- Green belt land 184m to the south of the site
- Local nature reserves within 2 km of the site

7.5 SUMMARY

The relevant pollutant linkages based on the potential sources, pathways and receptors outlined above are tabulated below:

Source	Pathway	Receptor
Potential contamination in Made Ground	Ingestion, direct contact and inhalation of dust	- Construction site workers - Maintenance workers - Future site users
	Leaching and downward migration	- Groundwater
	Lateral Groundwater Migration	- Closest water feature
Hazardous ground gases (made ground, areas of infilling, coal measures below the site)	Inhalation of indoor/outdoor air	- Construction site workers - Future site users - Adjacent sites (e.g. leisure centre, schools & residential properties)

Table 9 – Initial Conceptual Site Model

There are currently a series of uncertainties and assumptions in the CSM presented above as this is based on desk study information only. These are:

- Ground conditions have been conceptualised based on BGS geological maps and other primarily desk based information.
- The presence and extent of made ground on site is expected.
- The presence and extent of any suspected contamination is unknown in the absence of site investigation data.
- The presence and depth of any groundwater bodies at the site is currently unknown.

8 PRELIMINARY RISK ASSESSMENT**8.1 ASSESSMENT OF ENVIRONMENTAL RISKS METHODOLOGY**

The identification of potential pollutant linkages is a key aspect of the evaluation of potentially contaminated land. An approach based on CIRIA report C552 has been adopted. For each of the pollutant linkages, an estimate is made of:

- The potential severity of the risk; and
- The likelihood of the risk occurring.

Table 10 (overleaf) presents the severity of the risk and Table 11 (overleaf) presents the likelihood.

RISK FACTOR	TYPICAL EXAMPLES
<i>Severe</i>	<i>Acute risks to human health; Major pollution of controlled waters</i>
<i>Medium</i>	<i>Chronic (long-term) risk to human health; Pollution of controlled waters</i>
<i>Minor</i>	<i>Damage to non-sensitive species or ecosystems, buildings or services</i>

Table 10 – Severity of risk

PROBABILITY RATING	DESCRIPTION
<i>High Likelihood</i>	<i>Pollutant linkage may be present, and risk is almost certain to occur in the long term, or there is evidence of harm to the receptor.</i>
<i>Likely</i>	<i>Pollutant linkage may be present, and it is probable that the risk will occur over the long term.</i>
<i>Low Likelihood</i>	<i>Pollutant linkage may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.</i>
<i>Unlikely</i>	<i>Pollutant linkage may be present but the circumstances under which harm would occur are improbable.</i>

Table 11 – Probability of risk occurring

An overall qualitative evaluation of the level of risk is gained from a comparison of the severity and probability as presented in Table 12 below:

		SEVERITY		
		SEVERE	MEDIUM	MINOR
PROBABILITY	HIGH LIKELIHOOD	Very high risk	High Risk	Moderate / low risk
	LIKELY	High risk	Moderate risk	Low risk
	LOW LIKELIHOOD	Moderate risk	Moderate/ low risk	Very low risk
	UNLIKELY	Moderate / low risk	Low risk	Very low risk

Table 12 – Risk Rating Evaluation

8.2 PRELIMINARY RISK ASSESSMENT

Table 13 details the potential risks associated with the various potential pollutant linkages identified through the assessment of the data collated in this report. The risk category should be reviewed if further information is made available or the environmental setting of the site changes, for example through a proposed change in the development layout or end use.

Source	Pathway	Receptor	Severity	Probability	Risk Rating
Potential contamination in Made Ground	Ingestion, direct contact, inhalation of dust	Construction/ maintenance site workers	MEDIUM	LIKELY	MODERATE RISK
		Future site users	MEDIUM	UNLIKELY	LOW RISK
	Leaching and downward migration	Groundwater	MINOR	UNLIKELY	VERY LOW RISK
	Lateral Groundwater Migration	Closest Water Feature	MINOR	UNLIKELY	VERY LOW RISK
Hazardous ground gases (made ground below the site, infilled ground and Coal Measures)	Inhalation of indoor/ outdoor air	Construction site workers	MEDIUM	LOW LIKELIHOOD	MODERATE/LOW RISK
		Future site users	MEDIUM	LOW LIKELIHOOD	MODERATE/LOW RISK
		Adjacent sites e.g. leisure centre, schools & residential properties	MEDIUM	LOW LIKELIHOOD	MODERATE/LOW RISK

Table 13 – Preliminary Risk Assessment

On and off site contaminative issues have been highlighted and are listed as:

- Made ground associated with the historical use of the site
- Ground gas associated with potential sources such as; onsite made ground, nearby areas of infilling and historical mining activities. In addition, if present, hydrocarbons may also represent a source of gas which may represent a risk to the proposed development

It is therefore concluded that ground contamination testing be included into the design of any intrusive investigation works. Laboratory testing should also be undertaken on representative samples for naturally aggressive chemicals which could have a detrimental effect on building materials.

THE INFORMATION REVIEWED INDICATES THAT THE SITE CAN BE CONSIDERED AS BEING LOCATED WITHIN A **MODERATE** GROUND CONTAMINATION RISK SETTING FOR HUMAN HEALTH

When considering the potential for ground gas generation, such sources such as; onsite made ground; nearby areas of infilling and historical mining activities exist around the site. Three historical landfills lie within the site; a further two historical landfills and two local authority refuse tips lie within 1 km of the site which all could be a source of ground gas generation. There are also five licensed waste sites within 1 km of the site.

THE INFORMATION REVIEWED INDICATES THAT THE SITE CAN BE CONSIDERED AS BEING LOCATED WITHIN A **MODERATE** GROUND GAS GENERATION RISK SETTING FOR HUMAN HEALTH

When considering the potential risk to controlled waters, the closest surface water feature lies 76m to the North West of the site which is considered to be a sufficient distance away for contamination risk to be mitigated.

If sufficient water is struck, targeted groundwater screening should be completed and the risk to Controlled Waters should be assessed.

THE INFORMATION REVIEWED INDICATES THAT THE SITE CAN BE CONSIDERED AS BEING LOCATED WITHIN A **LOW** GROUND CONTAMINATION RISK SETTING FOR CONTROLLED WATERS.

9 GEOTECHNICAL CONSIDERATIONS

The following potential geotechnical issues and hazards have been identified for this site, and these issues should be considered before future re-development of the site is to take place.

- Actual depth, origin, variability and condition of made ground present on site.
- Actual depth to natural strata/variability of strata.
- Shallow groundwater may be present (i.e. surface infiltration and trapped water) that may affect excavation stability and reduce maximum allowable bearing pressures.

In order to determine the geotechnical considerations above with more certainty, it is recommended that intrusive investigation works, with associated geotechnical laboratory testing are carried out, prior to commencing with any redevelopment.

THE INFORMATION REVIEWED INDICATES THAT THE SITE CAN BE CONSIDERED AS BEING LOCATED WITHIN A **MODERATE** GEOTECHNICAL RISK SETTING.

10 CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

A risk rating of MODERATE is determined appropriate for this development with respect to geotechnical considerations.

A risk rating of MODERATE is determined appropriate for this development with respect to ground contamination. Made ground is anticipated so the risk assessment must take the potential of made ground exposure into account. Historically, the site has remained undeveloped however has had many different land uses including landfills until approximately 1994 when the site returned to recreational land.

A risk rating of MODERATE is determined appropriate for this development with respect to ground gas generation. Ground gas associated with potential sources such as; onsite made ground, nearby areas of infilling, landfill and the historical mining activity surrounding the site.

A risk rating of LOW is considered appropriate for this site with respect to potential risks to controlled waters.

10.2 RECOMMENDATIONS

It should be appreciated that the desk study can only give indications of the likely geotechnical and geoenvironmental conditions. The desk study has shown that the site may have been exposed to moderate contamination. Therefore, an intrusive Phase 2 Site Investigation including representative generic contamination sampling is recommended.

It is also recommended that trial pits/boreholes are excavated/sunk respectively to confirm strata variability, groundwater regime and the extent and condition of made ground deposits. Representative samples should be taken for geotechnical and geochemical testing. The ground gas regime on site shall be classified with a ground gas monitoring campaign following the intrusive investigation. An appropriate Geo-environmental Engineer should be sought to carry out this intrusive work.

APPENDICES

APPENDIX A – SITE LOCATION

APPENDIX B - HISTORICAL MAP EXTRACTS

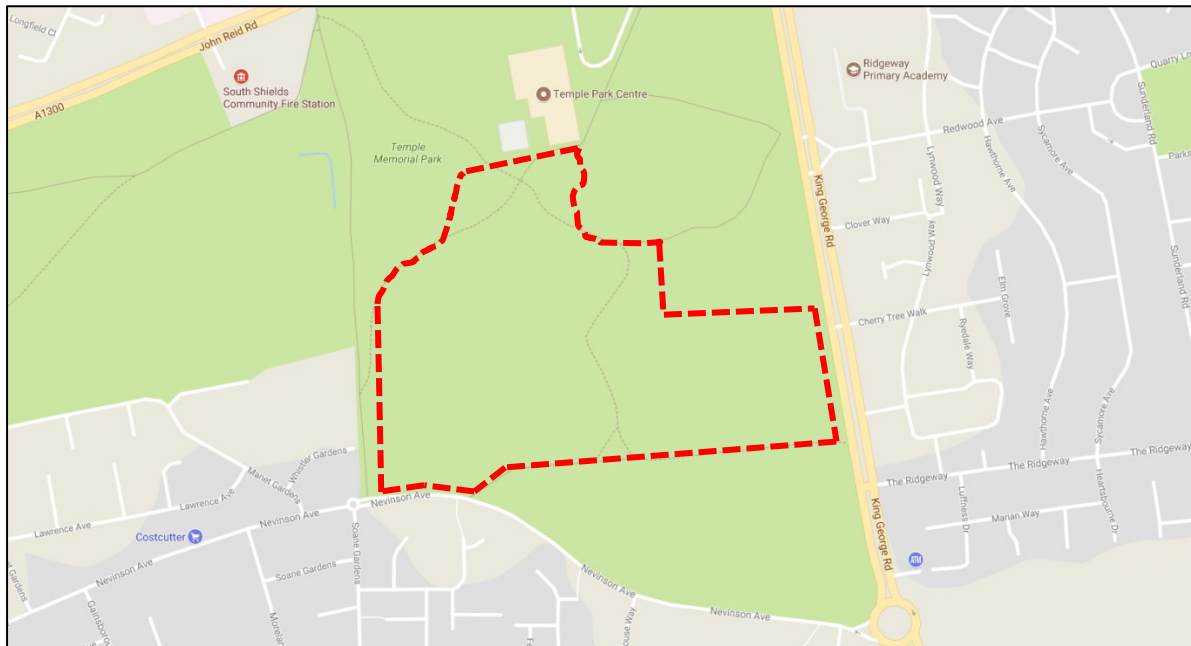
APPENDIX C - GROUNDSURE REPORT

APPENDIX D - MINING REPORT

APPENDIX E - SITE PHOTOGRAPHS

APPENDIX A

SITE LOCATION



Site Location (taken from Google Map Data, 2016). Red dashed line denotes approximate development area boundary.



Plan view of site location (taken from Google Map Data, 2016). Red dashed line denotes approximate development area boundary.

APPENDIX B
HISTORICAL MAP EXTRACTS

Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_1_1
Grid Ref: 436769, 563402

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Map date: 1958-1959

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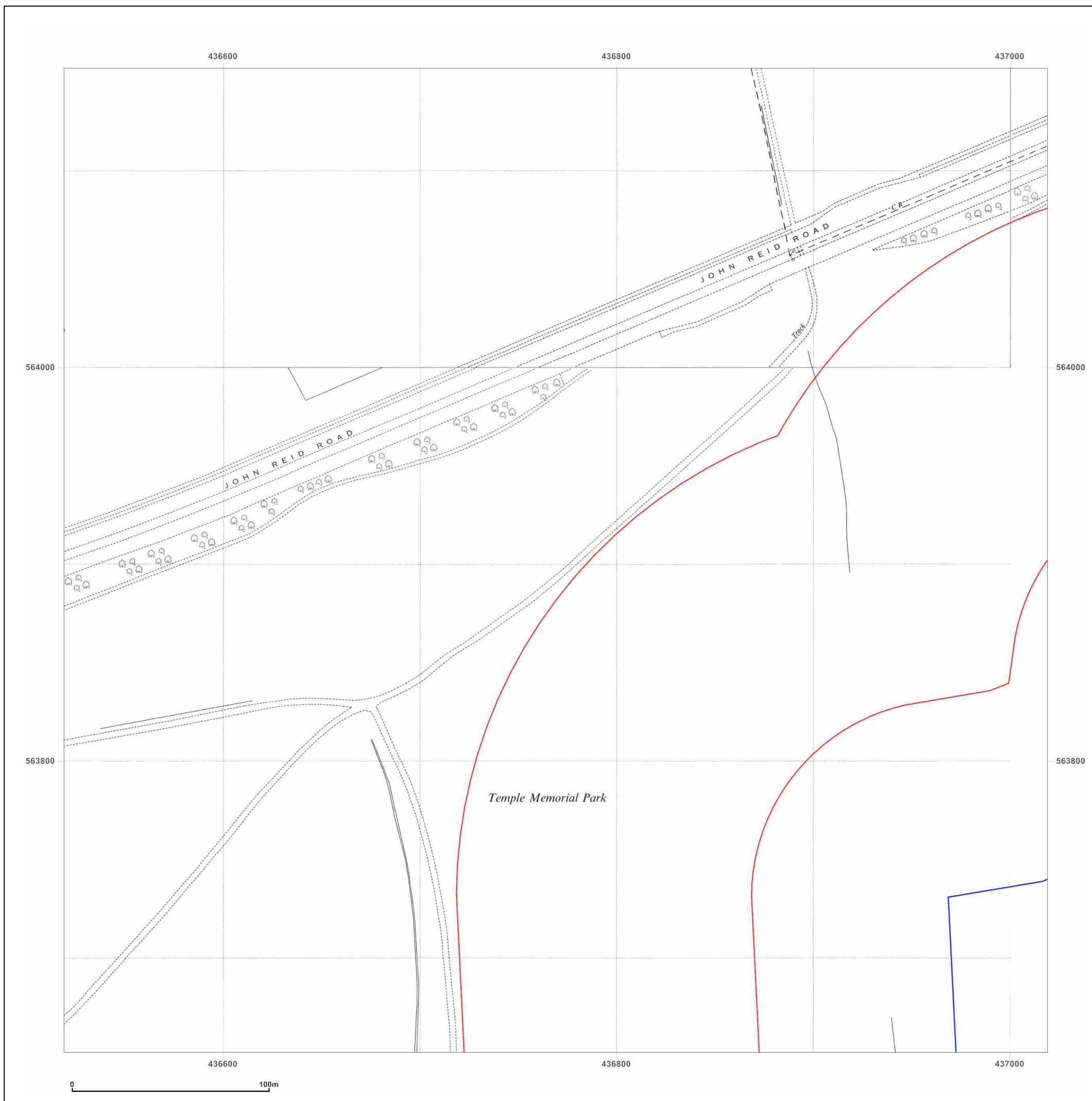


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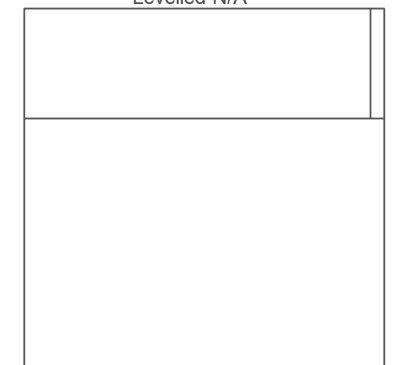
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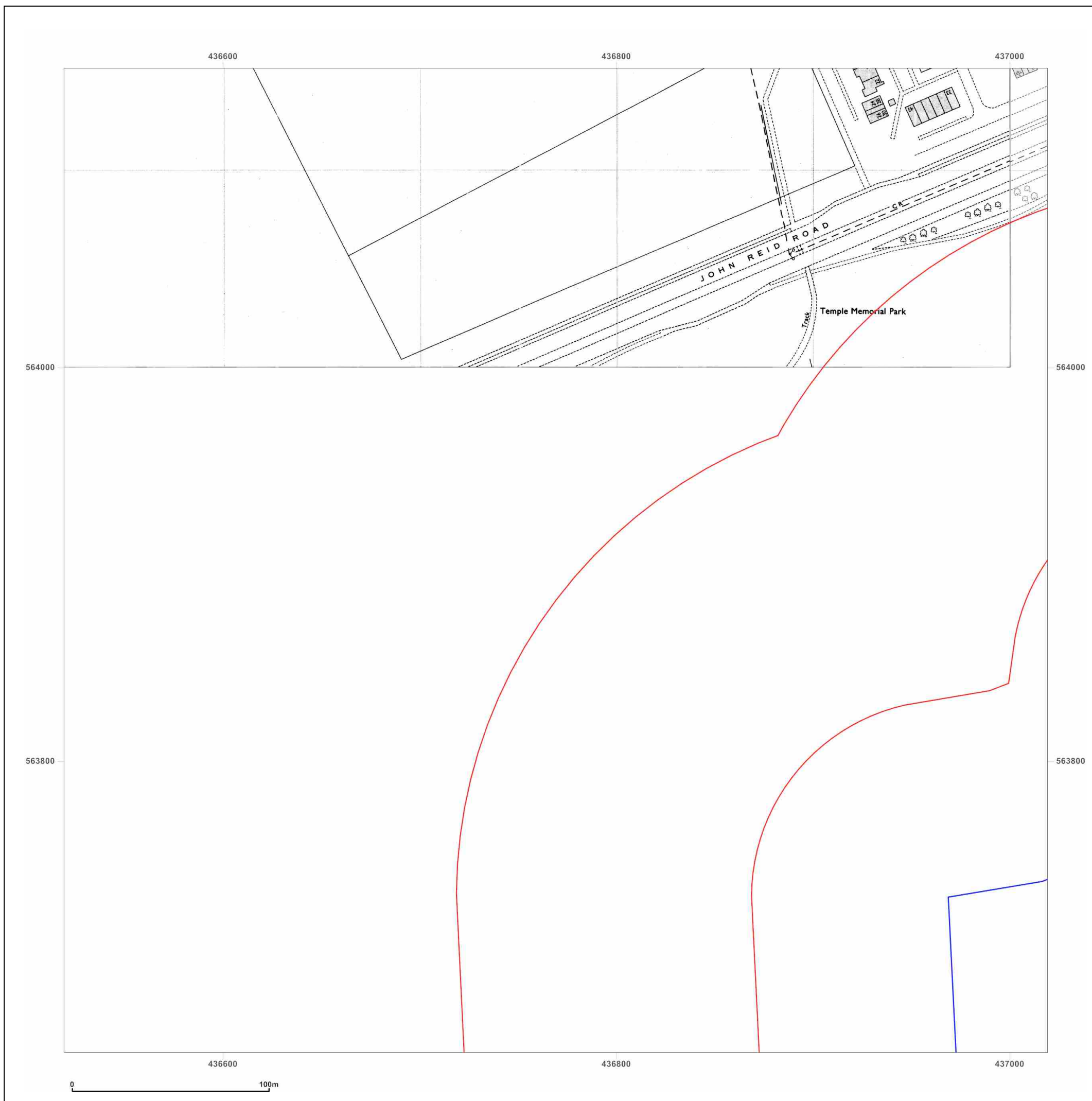


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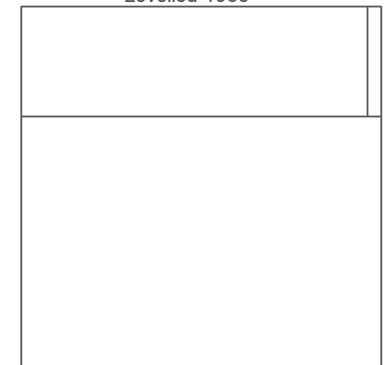
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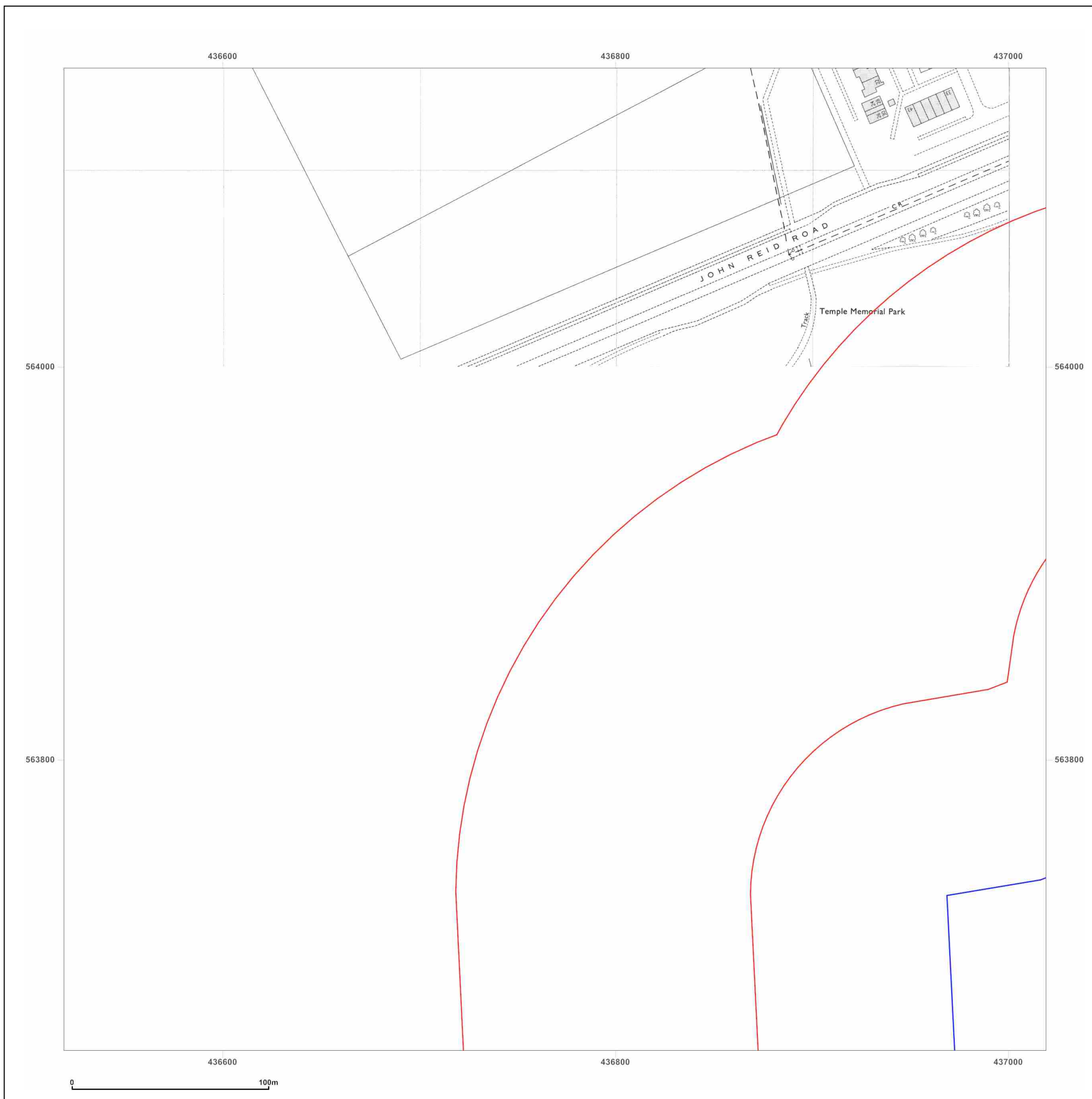


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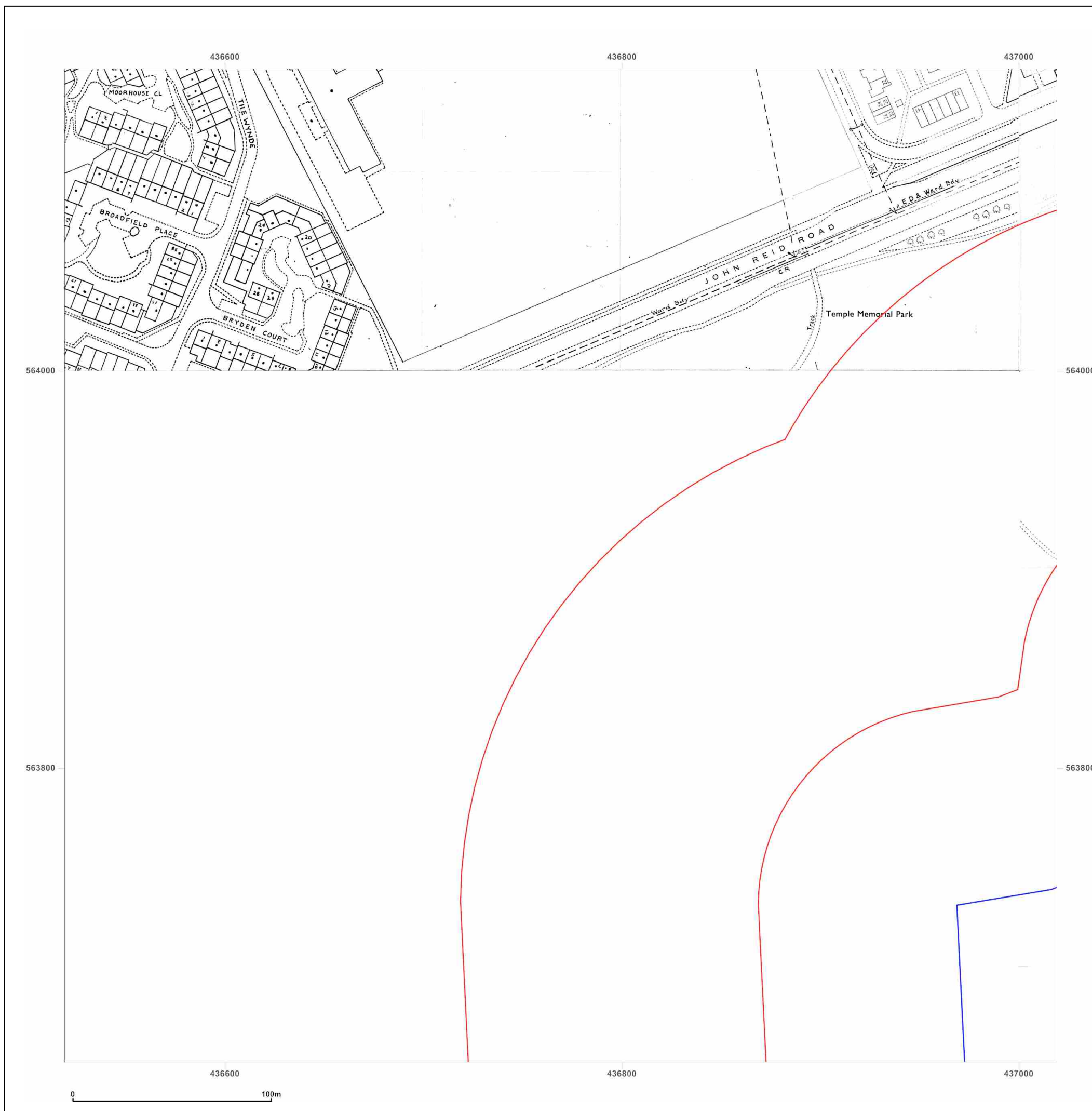


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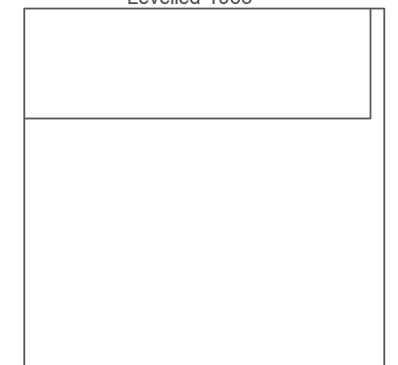
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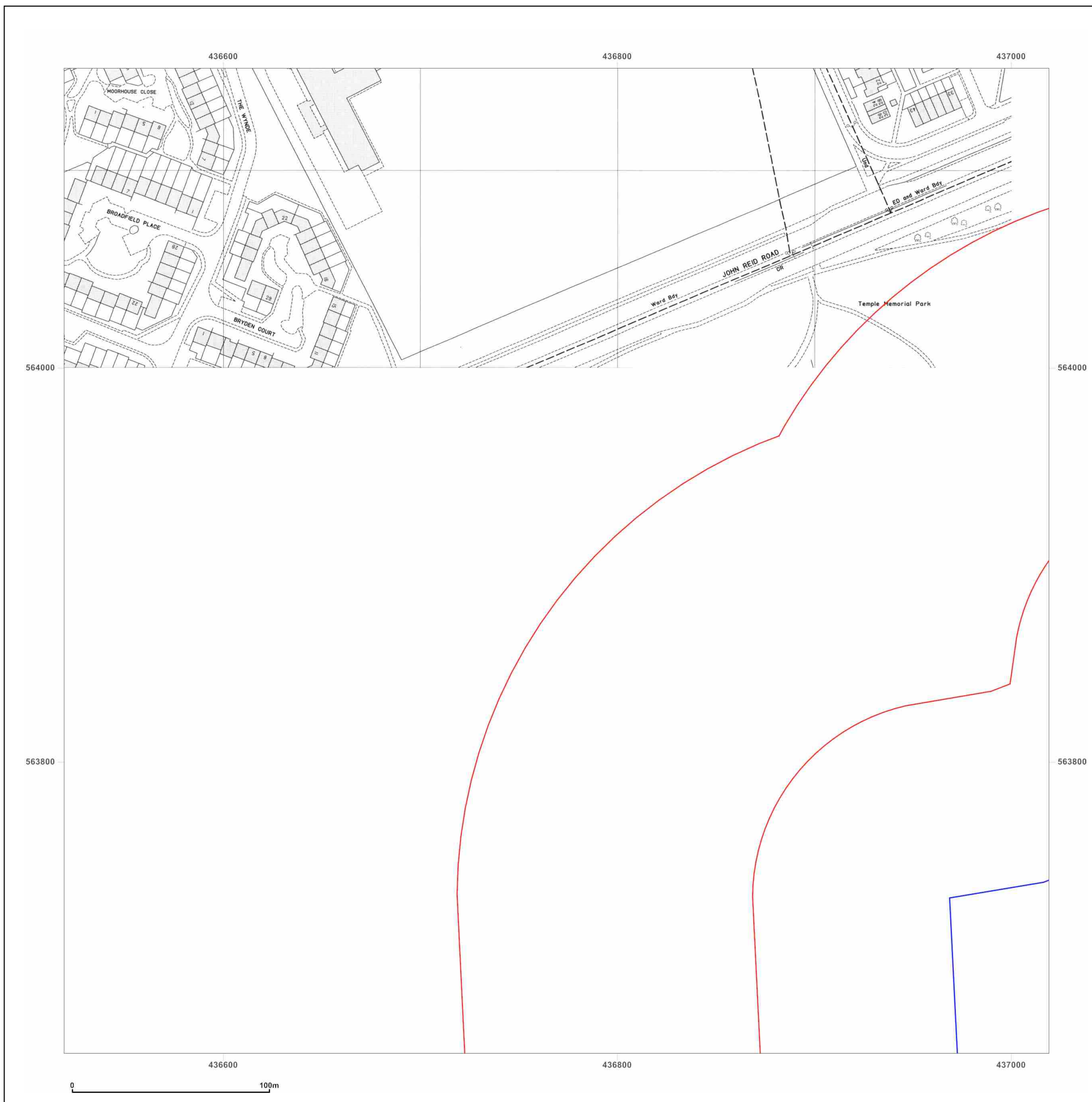


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Map Name: National Grid

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Scale: 1:1,250

Printed at: 1:2,000



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

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



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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1958

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1939

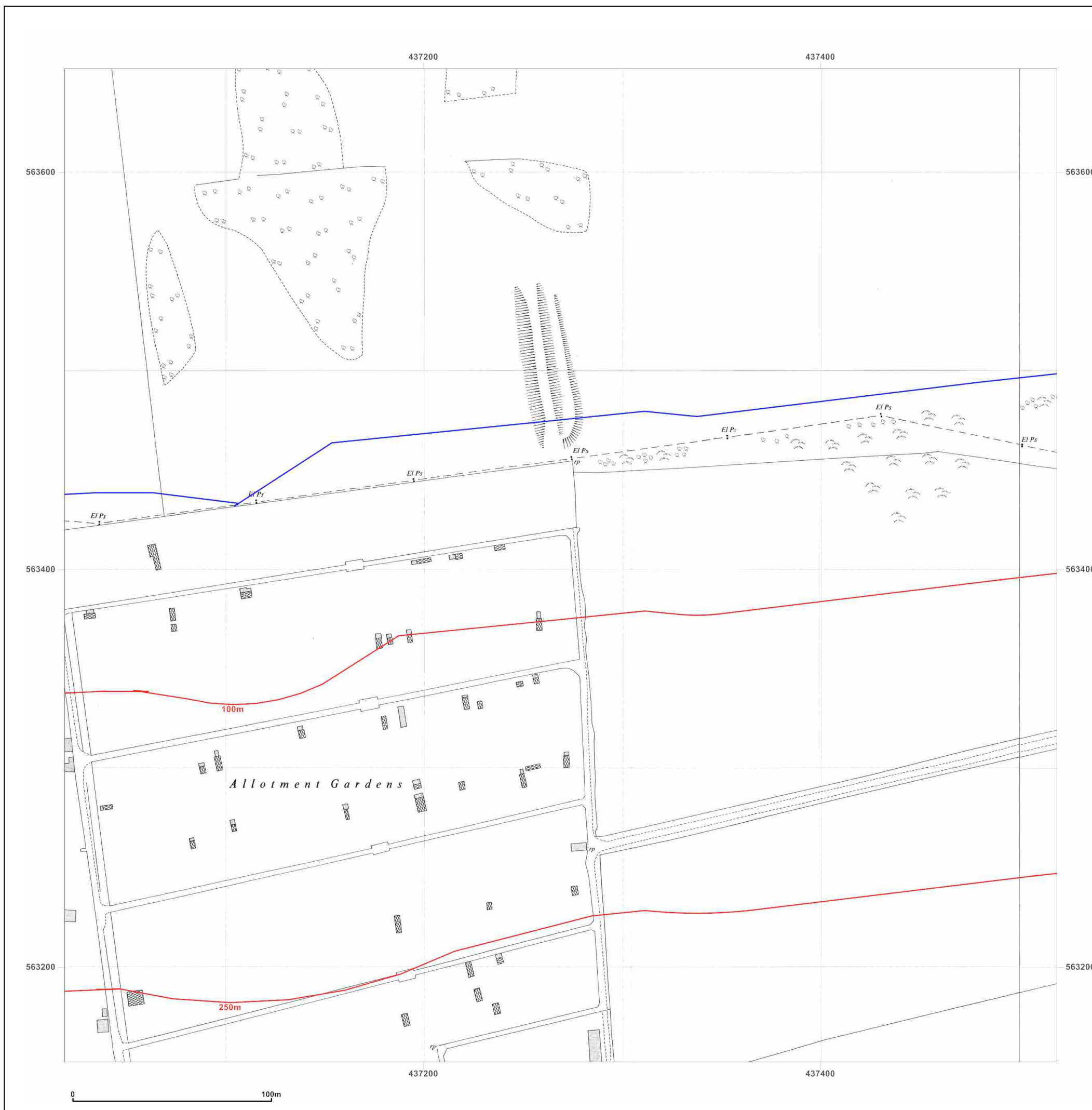


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

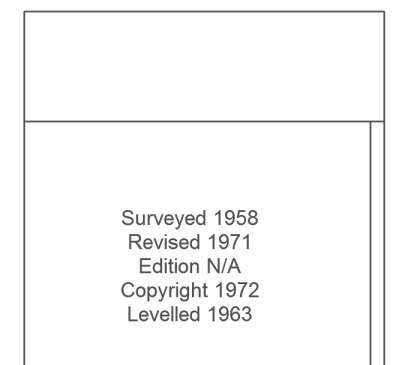
Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1967-1972

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1966
Edition N/A
Copyright 1967
Levelled 1963

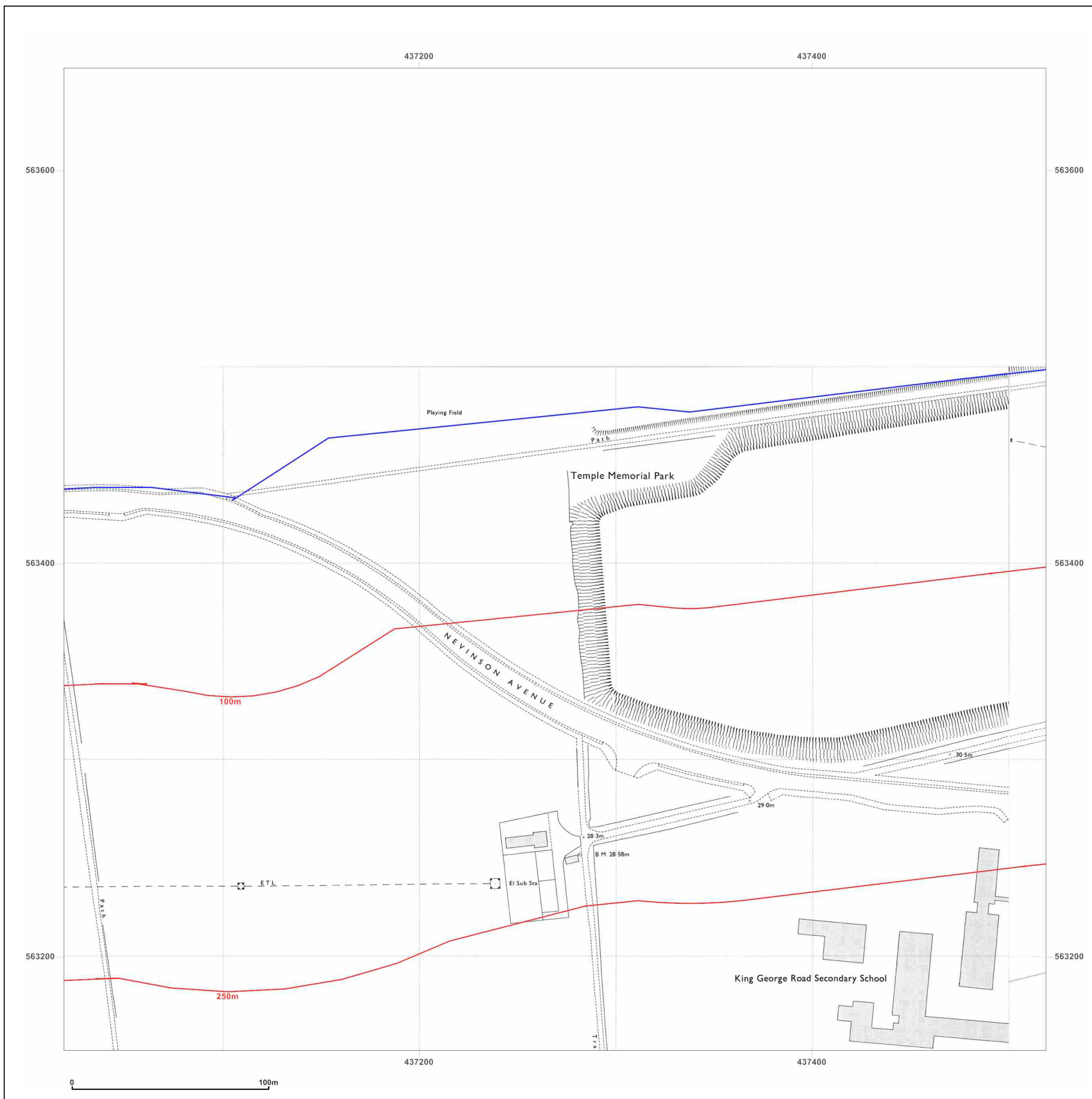


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1973-1974

Scale: 1:1,250

Printed at: 1:2,000



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

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

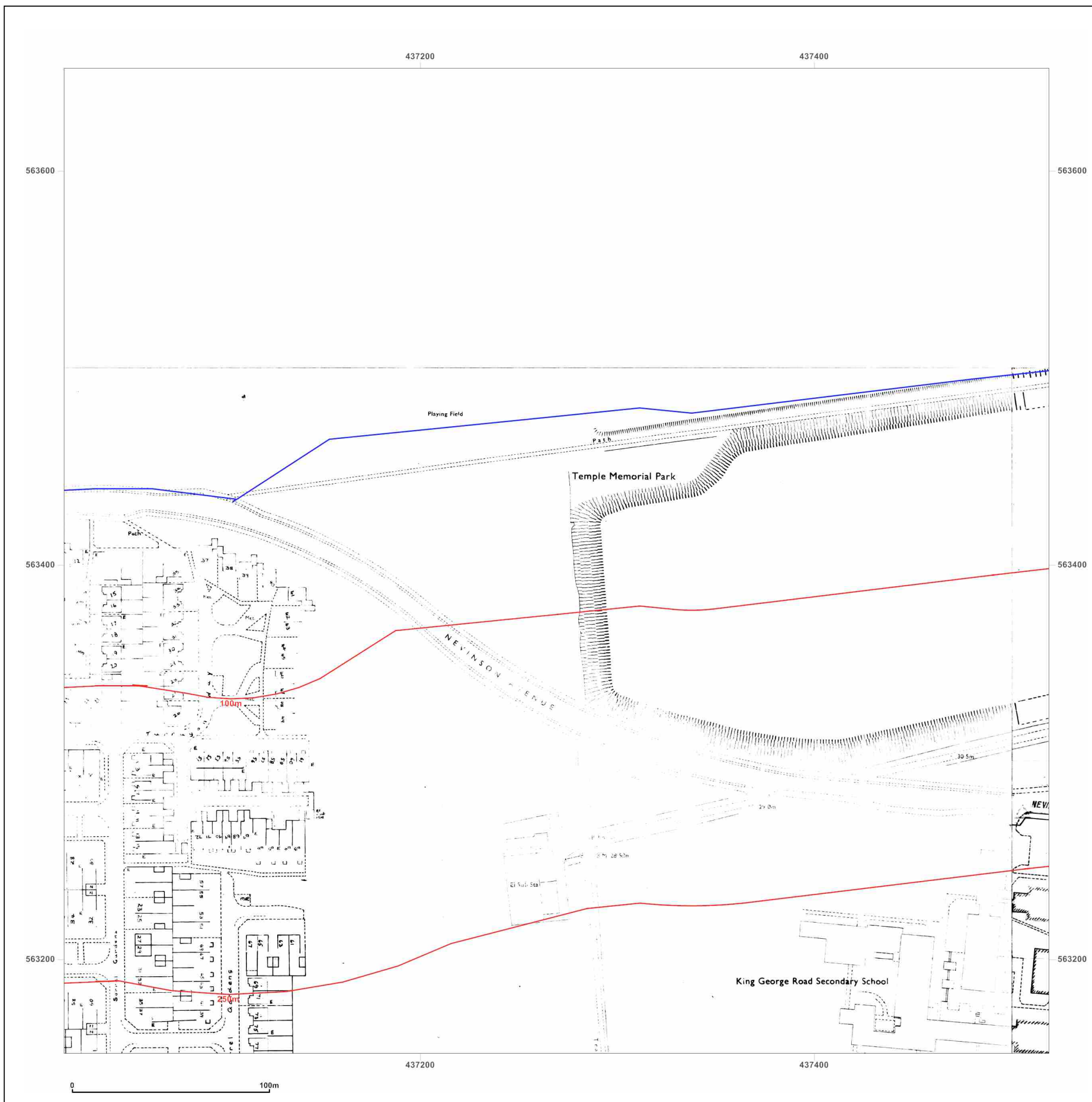


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1974

Scale: 1:1,250

Printed at: 1:2,000



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

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

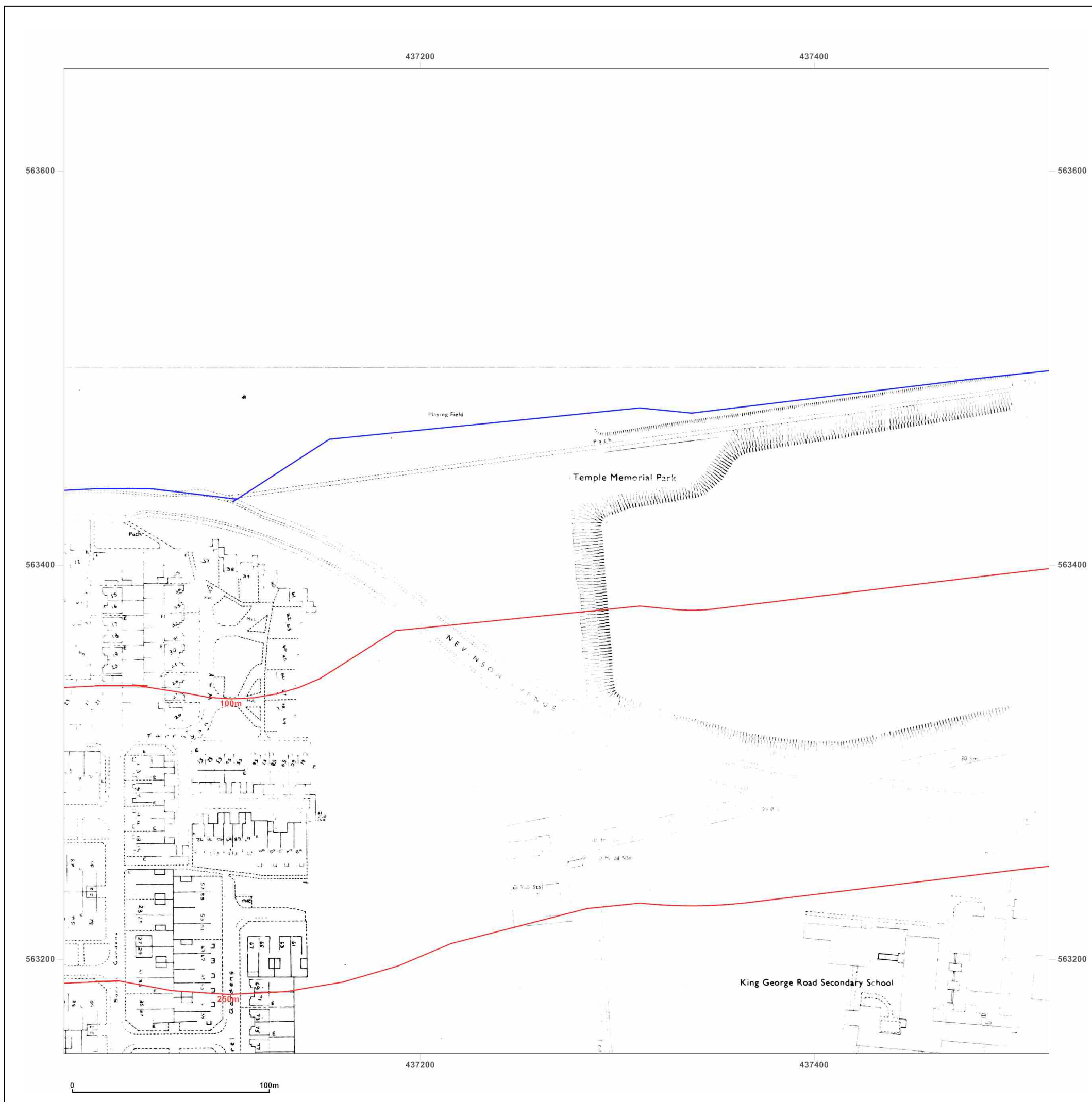


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1975

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed 1958
Revised 1975
Edition N/A
Copyright 1975
Levelled 1963

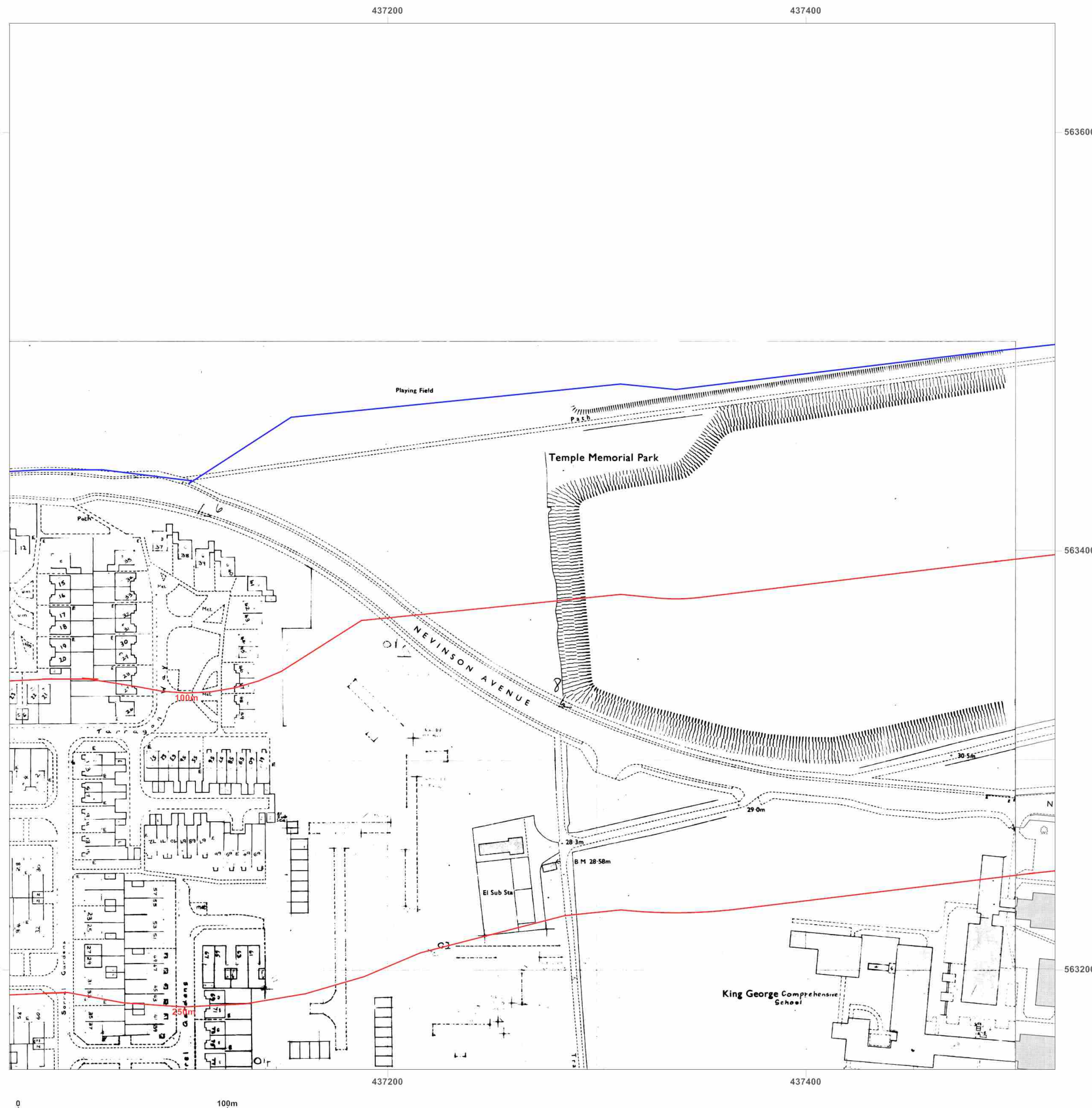


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1975

Scale: 1:1,250

Printed at: 1:2,000



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

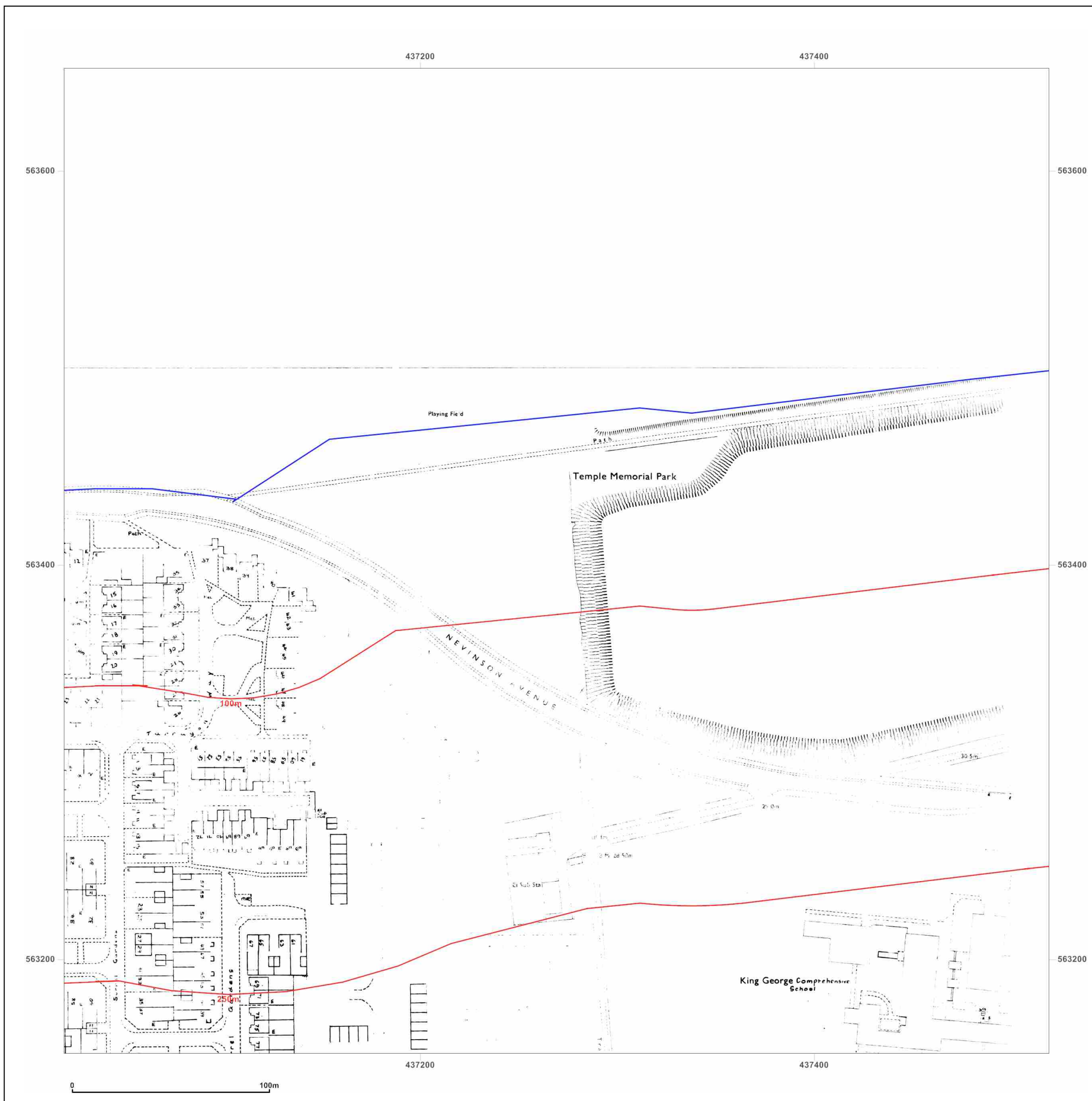


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1977

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

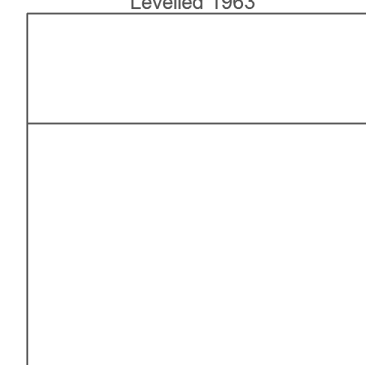
Map date: 1983

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1963
Revised 1983
Edition N/A
Copyright 1983
Levelled 1963

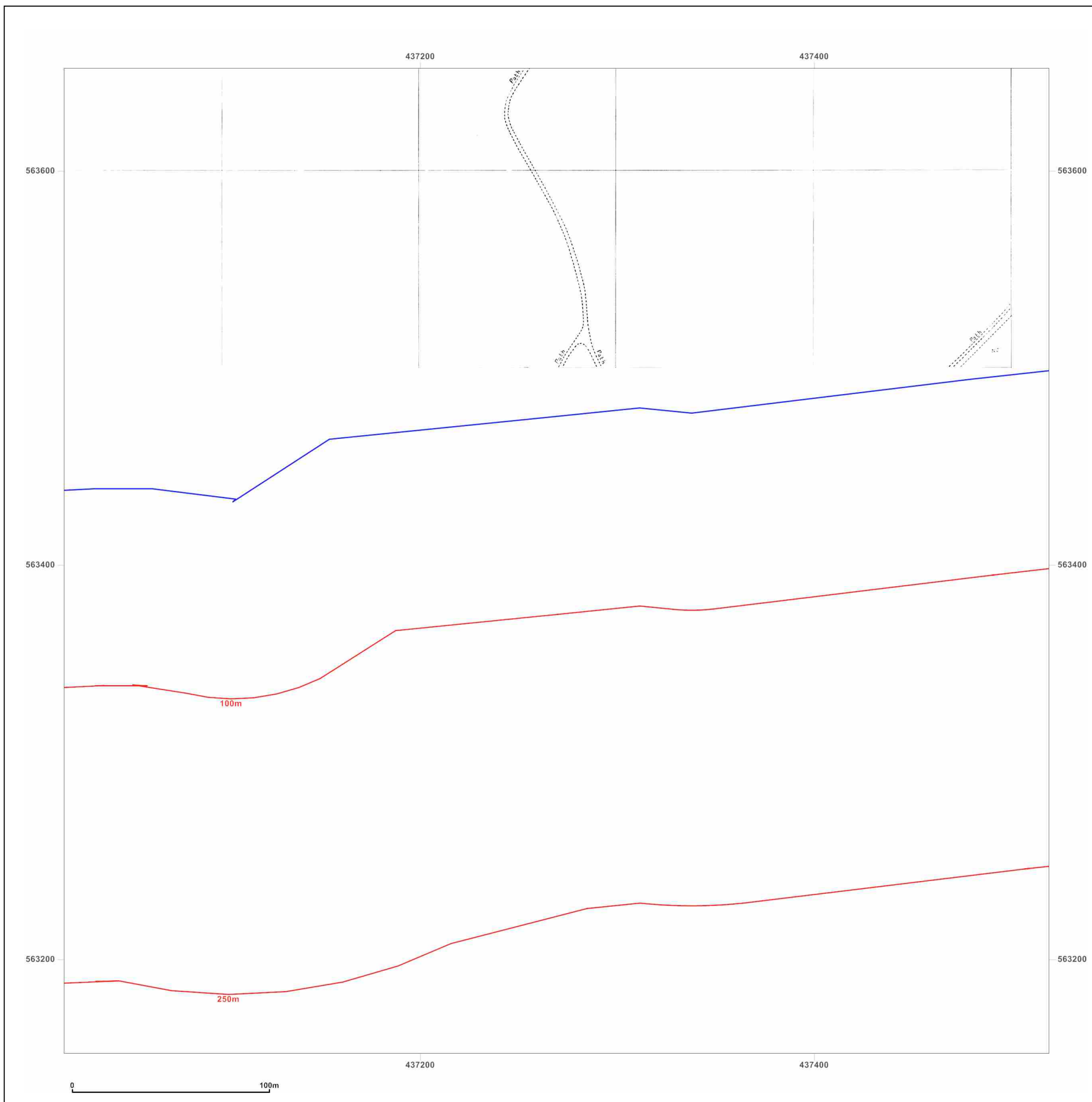


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_1
Grid Ref: 437269, 563402

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
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Surveyed 1993
Revised 1993
Edition N/A
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Levelled N/A

Surveyed 1993
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Edition N/A
Copyright N/A
Levelled N/A

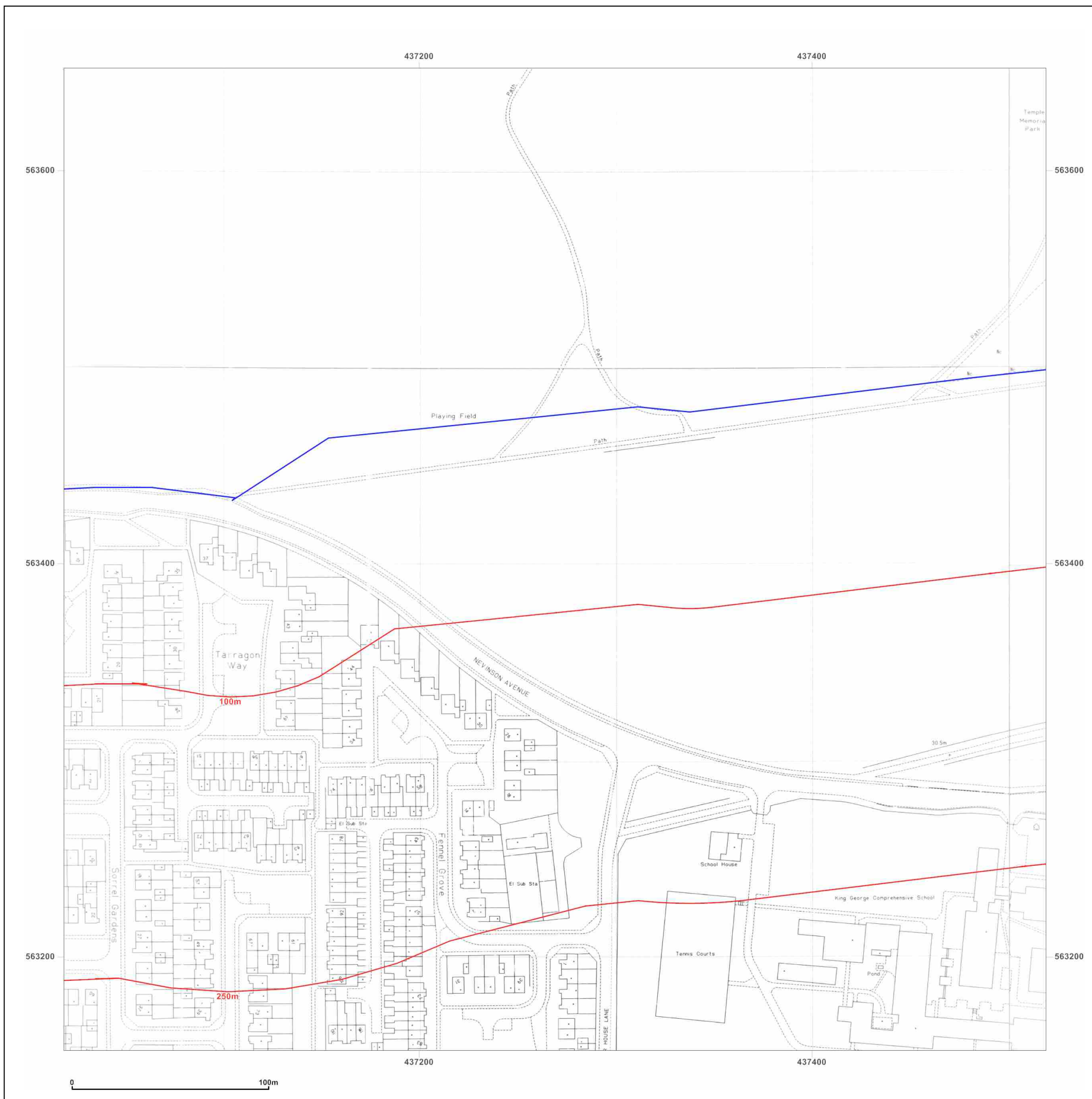


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

Map date: 1956

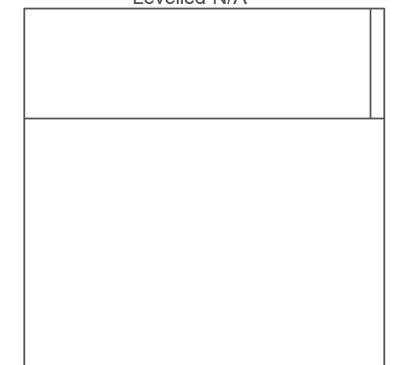
Scale: 1:1,250

Printed at: 1:2,000



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

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

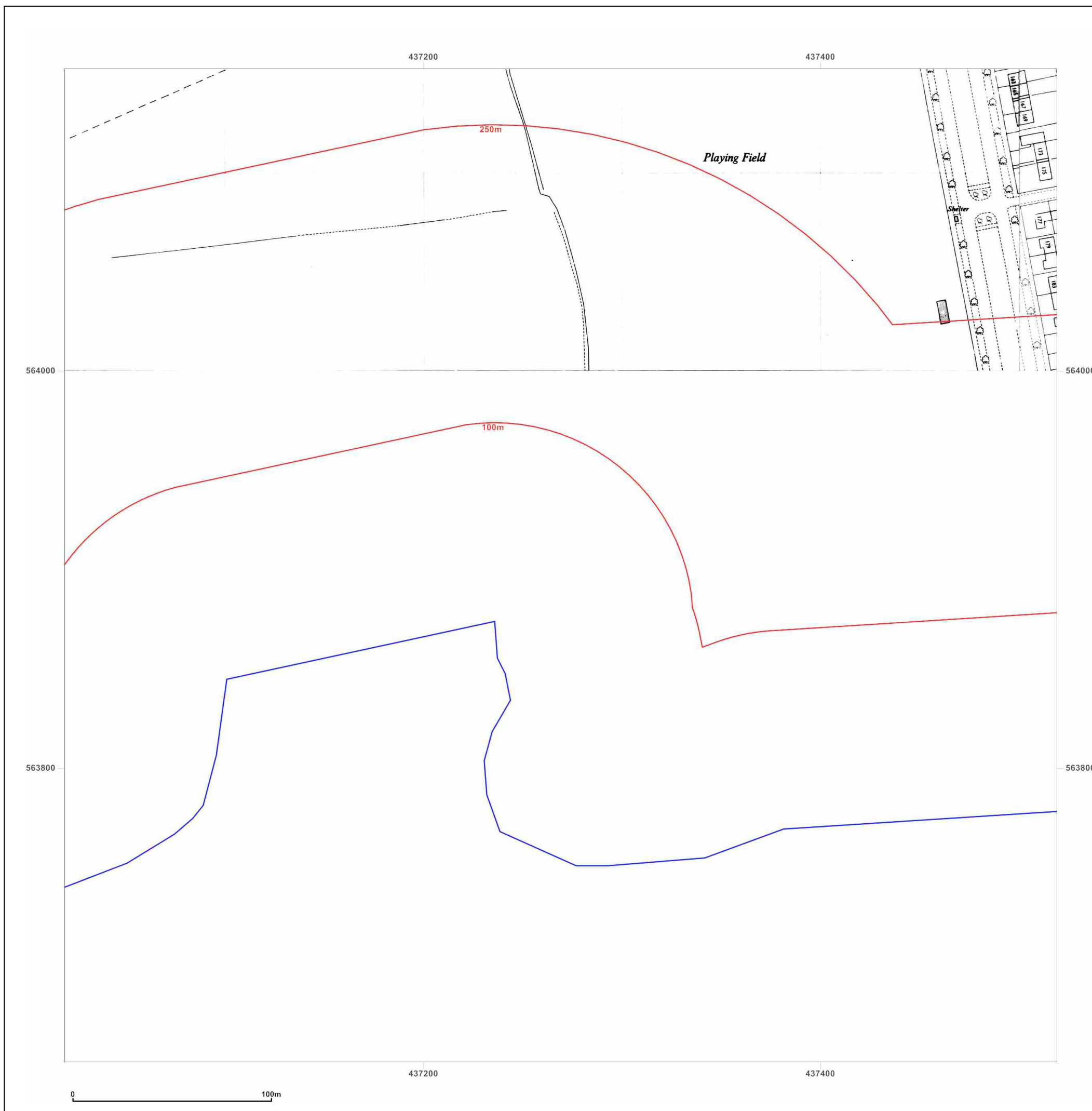


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

Map date: 1955-1958

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

Map date: 1968-1970

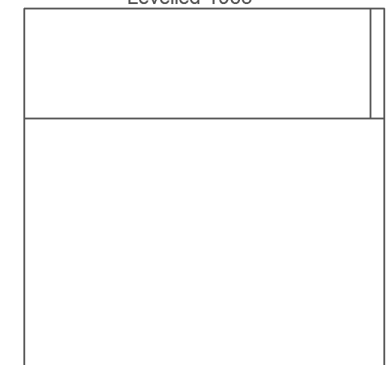
Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1968
Edition N/A
Copyright 1968
Levelled 1963

Surveyed 1955
Revised 1970
Edition N/A
Copyright 1970
Levelled 1963

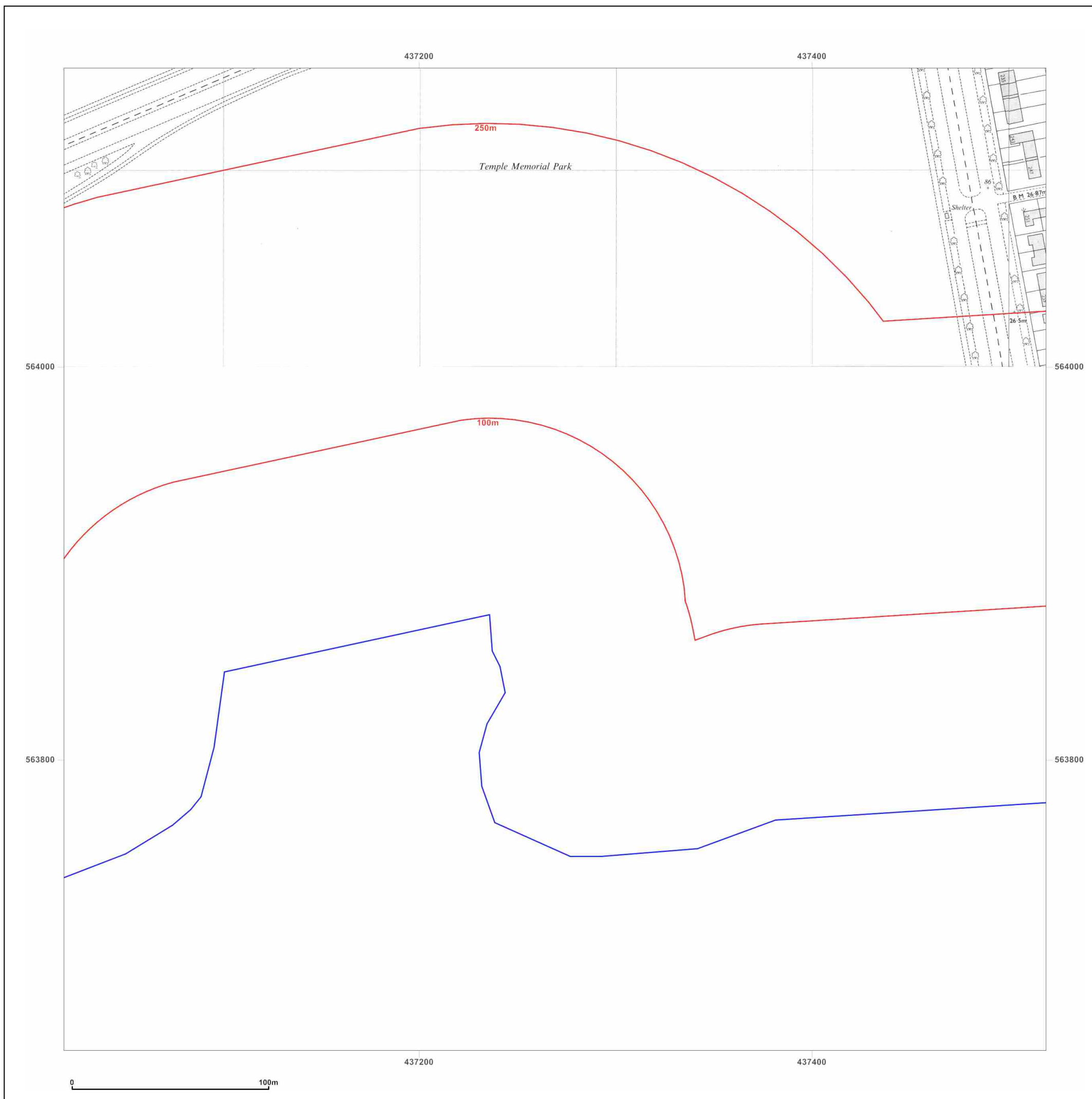


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TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

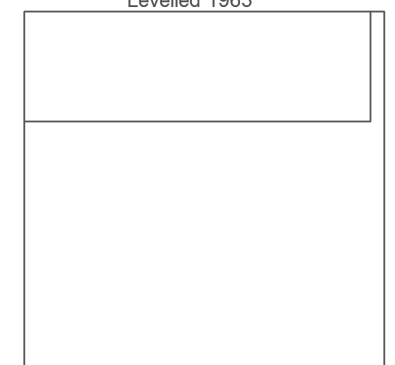
Map date: 1970

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1970
Edition N/A
Copyright 1970
Levelled 1963

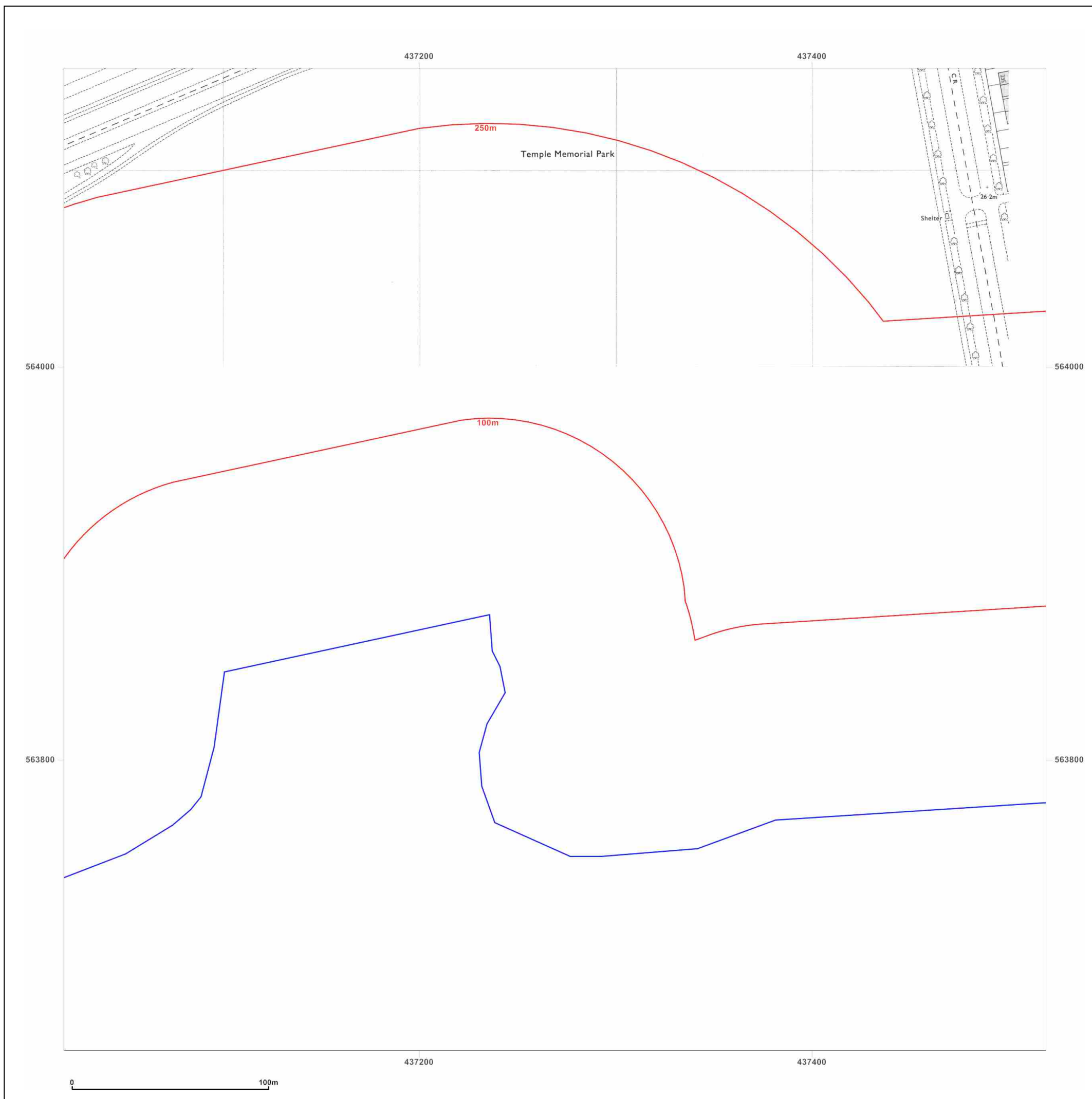


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

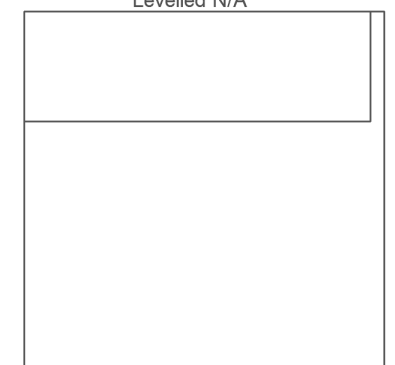
Map date: 1972

Scale: 1:1,250

Printed at: 1:2,000



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

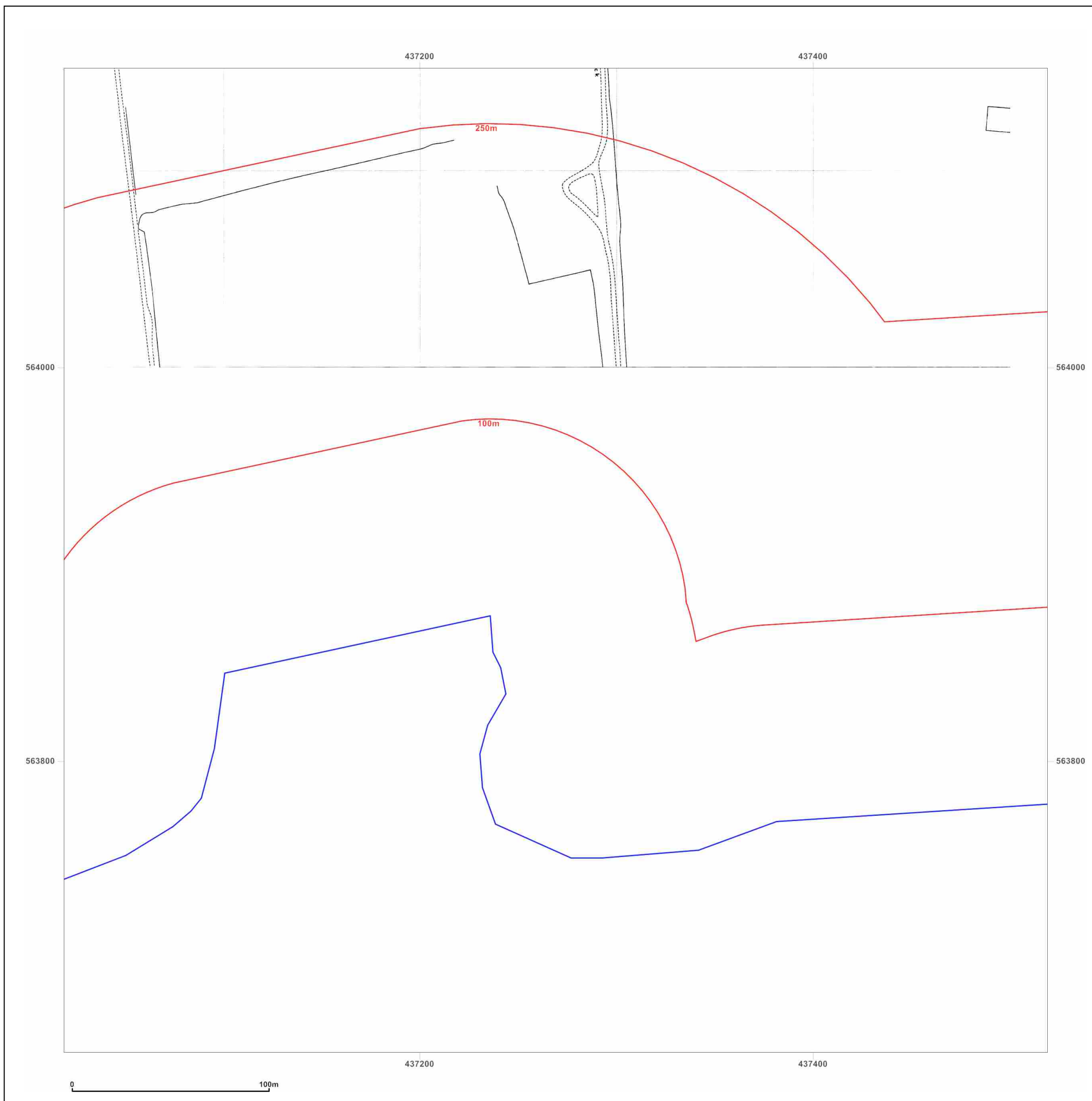


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

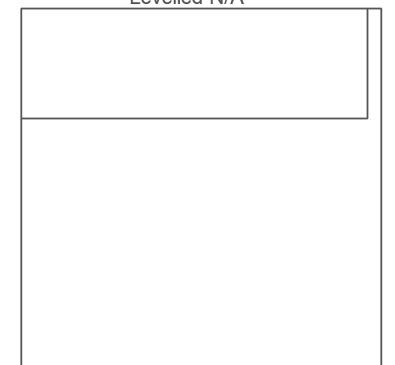
Map date: 1974

Scale: 1:1,250

Printed at: 1:2,000



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

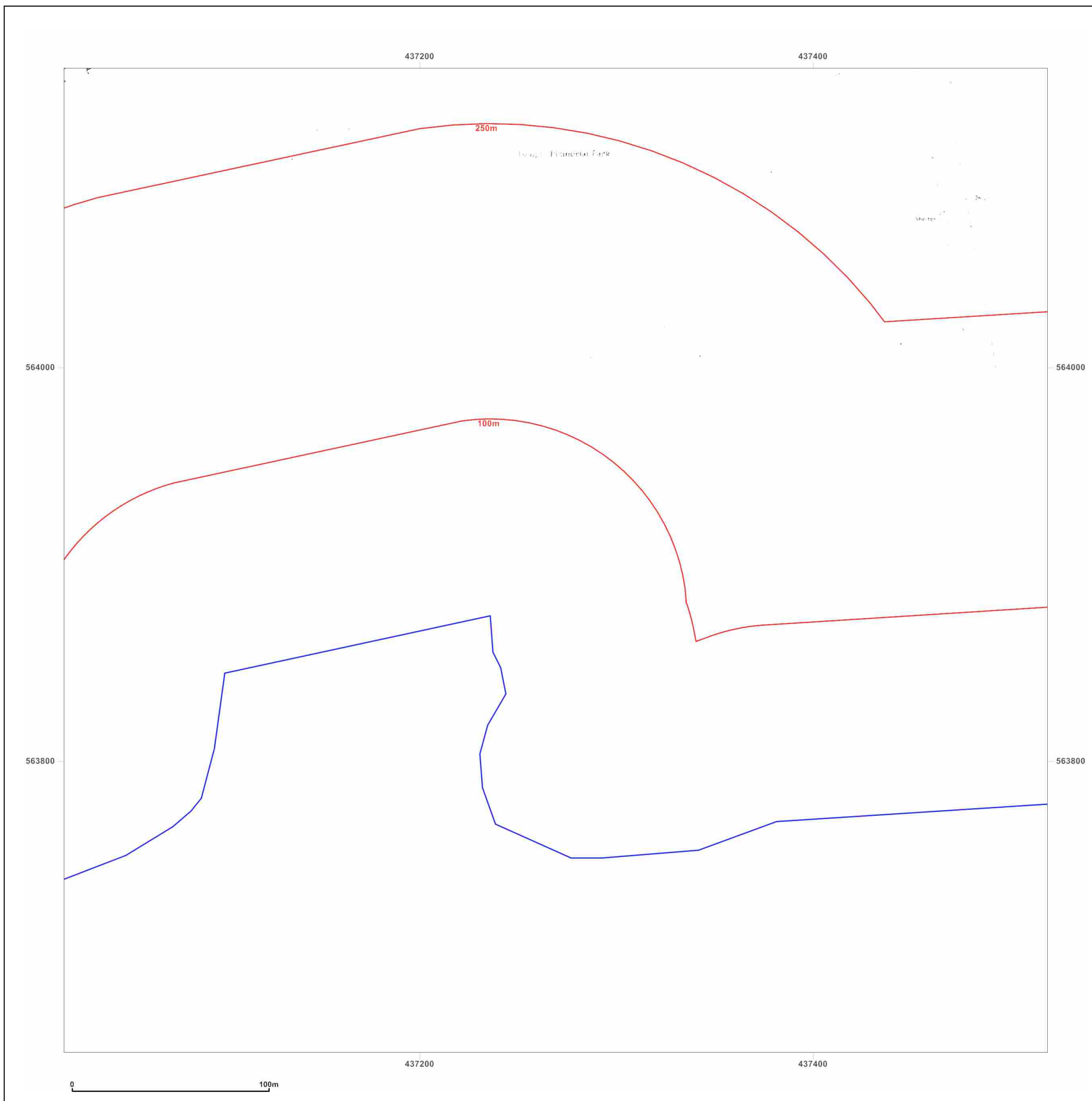


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

Map date: 1983-1985

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1983
Levelled 1963

Surveyed 1985
Revised 1985
Edition N/A
Copyright 1985
Levelled N/A

Surveyed 1963
Revised 1983
Edition N/A
Copyright 1983
Levelled 1963



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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_2_2
Grid Ref: 437269, 563902

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_1
Grid Ref: 437769, 563402

Map Name: National Grid

Map date: 1957-1958

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1957
Revised 1957
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
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Surveyed 1957
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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_1
Grid Ref: 437769, 563402

Map Name: National Grid

Map date: 1967

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1966
Edition N/A
Copyright 1967
Levelled 1963

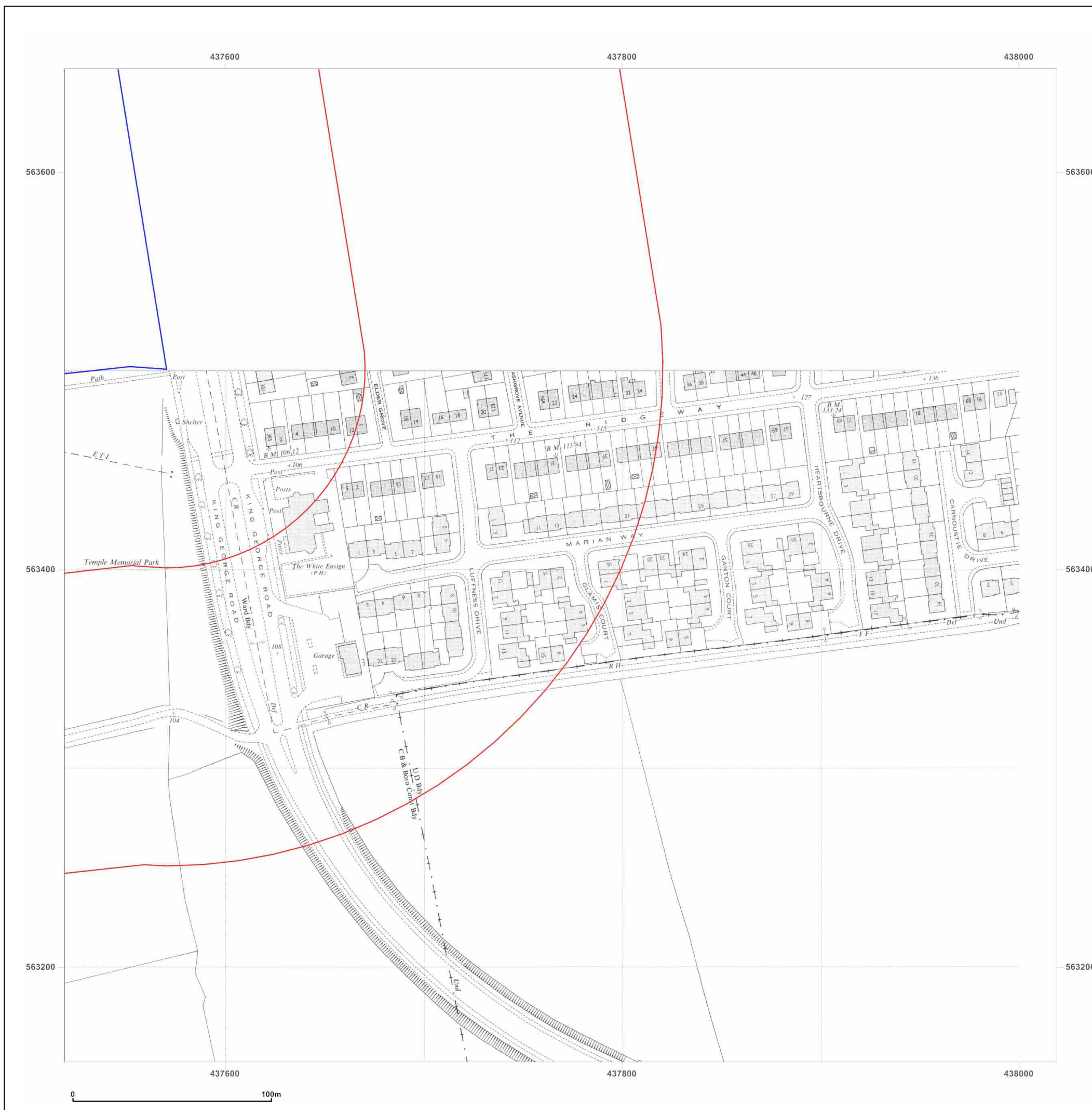


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Site Details:

TEMPLE MEMORIAL PARK,
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Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_1
Grid Ref: 437769, 563402

Map Name: National Grid

Map date: 1973-1974

Scale: 1:1,250

Printed at: 1:2,000



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

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

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_1
Grid Ref: 437769, 563402

Map Name: National Grid

Map date: 1974-1975

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A	Surveyed 1957 Revised 1974 Edition N/A Copyright 1975 Levelled 1963

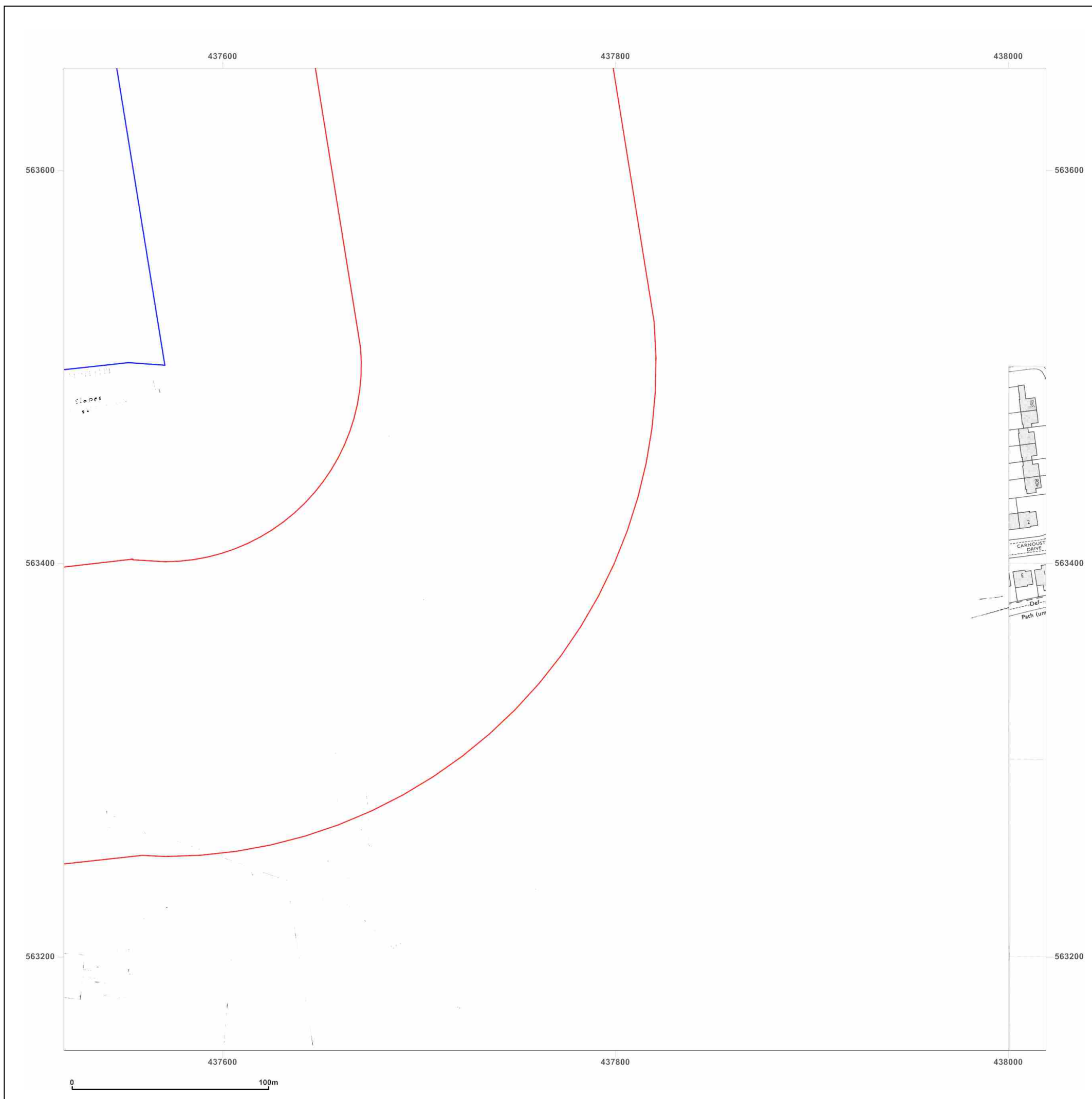


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_1
Grid Ref: 437769, 563402

Map Name: National Grid

Map date: 1975

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1975
Edition N/A
Copyright 1975
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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_1
Grid Ref: 437769, 563402

Map Name: National Grid

Map date: 1989-1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1957
Revised 1988
Edition N/A
Copyright 1989
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_2
Grid Ref: 437769, 563902

Map Name: National Grid

Map date: 1955-1958

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1957
Revised 1957
Edition N/A
Copyright N/A
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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_2
Grid Ref: 437769, 563902

Map Name: National Grid

Map date: 1956-1958

Scale: 1:1,250

Printed at: 1:2,000



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

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Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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

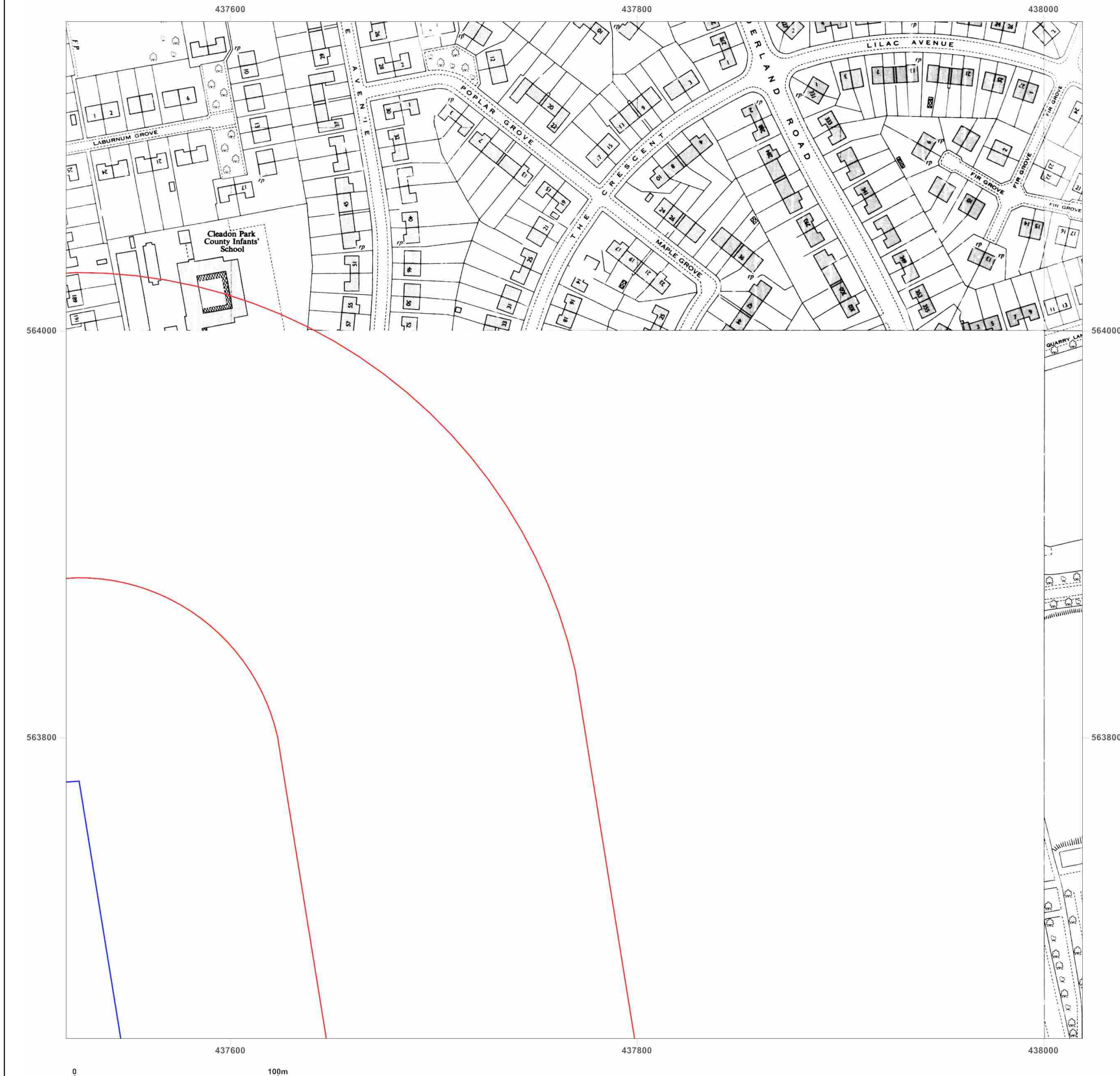


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_2
Grid Ref: 437769, 563902

Map Name: National Grid

Map date: 1970-1972

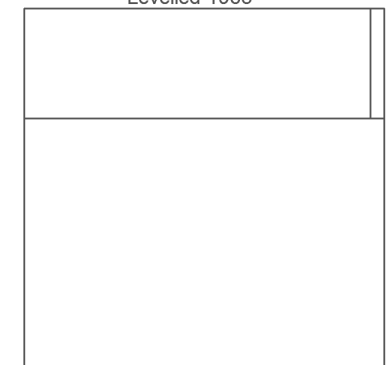
Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1970
Edition N/A
Copyright 1970
Levelled 1963

Surveyed 1955
Revised 1971
Edition N/A
Copyright 1972
Levelled 1963

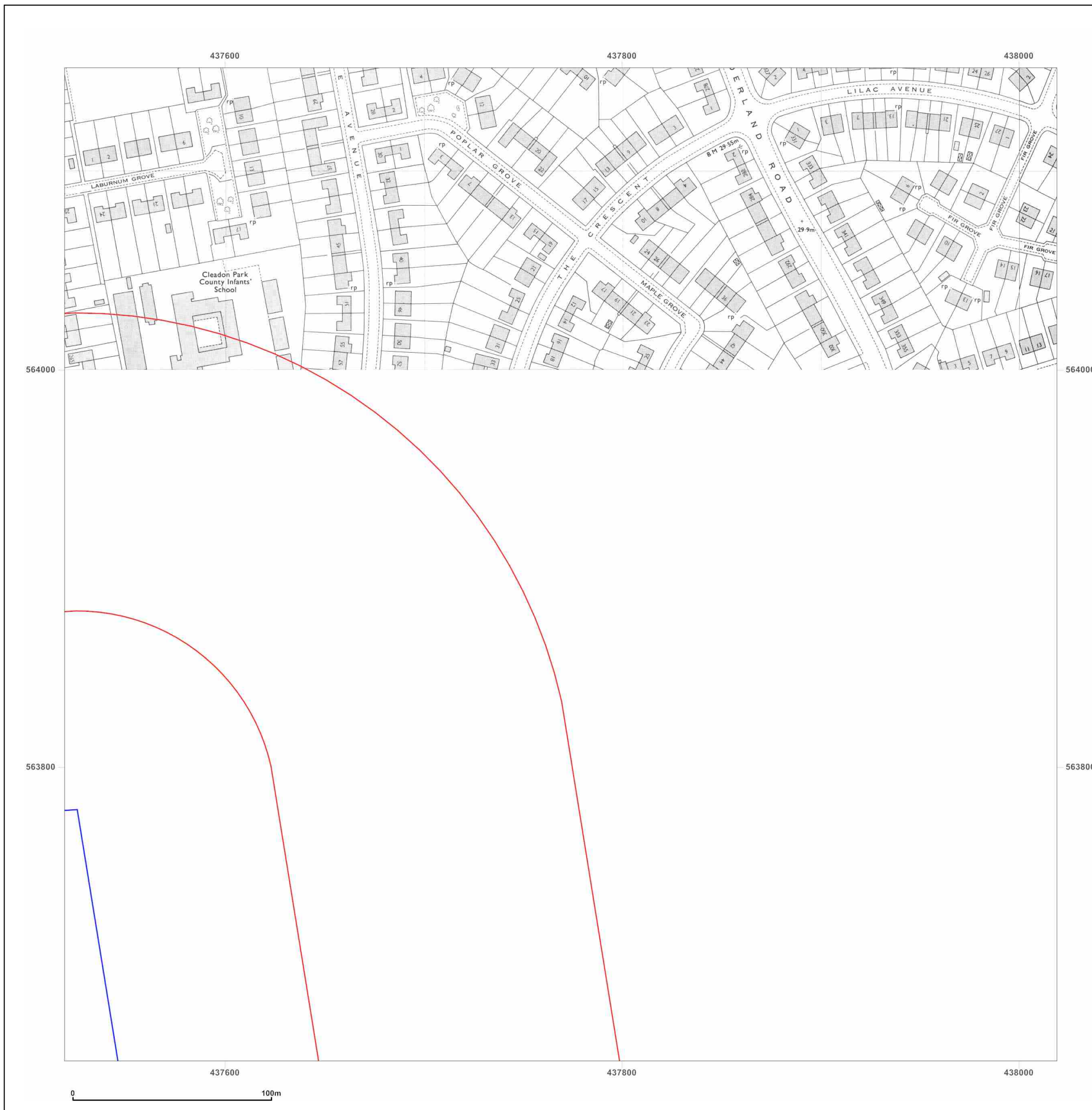


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_2
Grid Ref: 437769, 563902

Map Name: National Grid

Map date: 1985

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1985
Revised 1985
Edition N/A
Copyright 1985
Levelled N/A

Surveyed 1963
Revised 1985
Edition N/A
Copyright 1985
Levelled 1963

Surveyed 1963
Revised 1985
Edition N/A
Copyright 1985
Levelled 1963

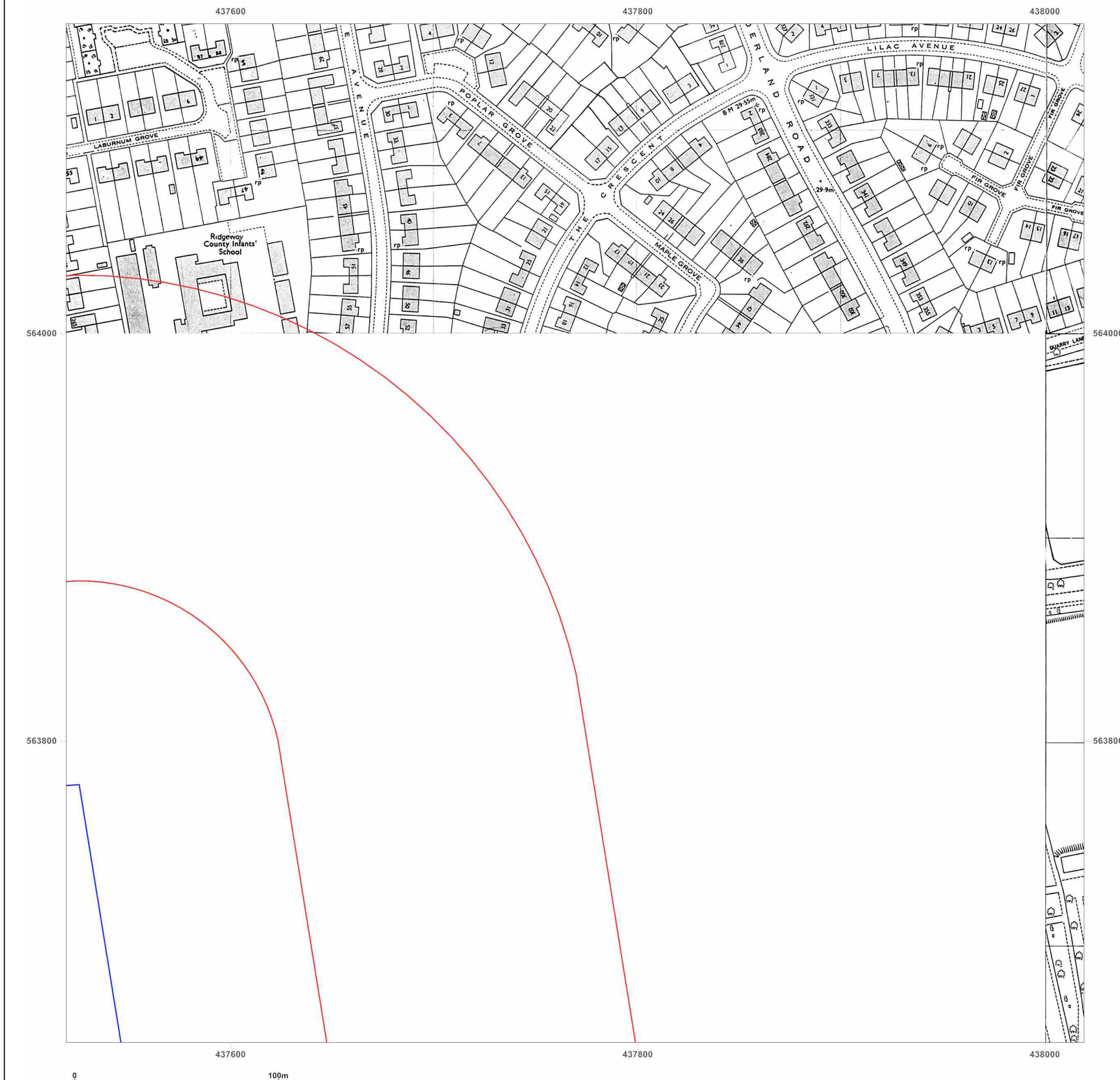


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_2
Grid Ref: 437769, 563902

Map Name: National Grid

Map date: 1989-1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1957
Revised 1988
Edition N/A
Copyright 1989
Levelled N/A



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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_2
Grid Ref: 437769, 563902

Map Name: National Grid

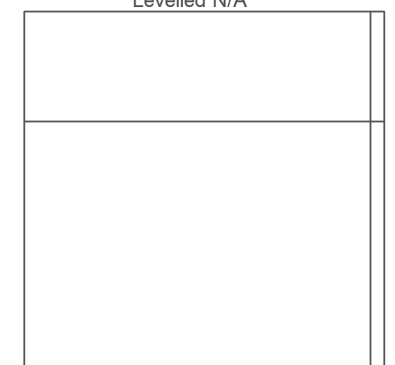
Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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



Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

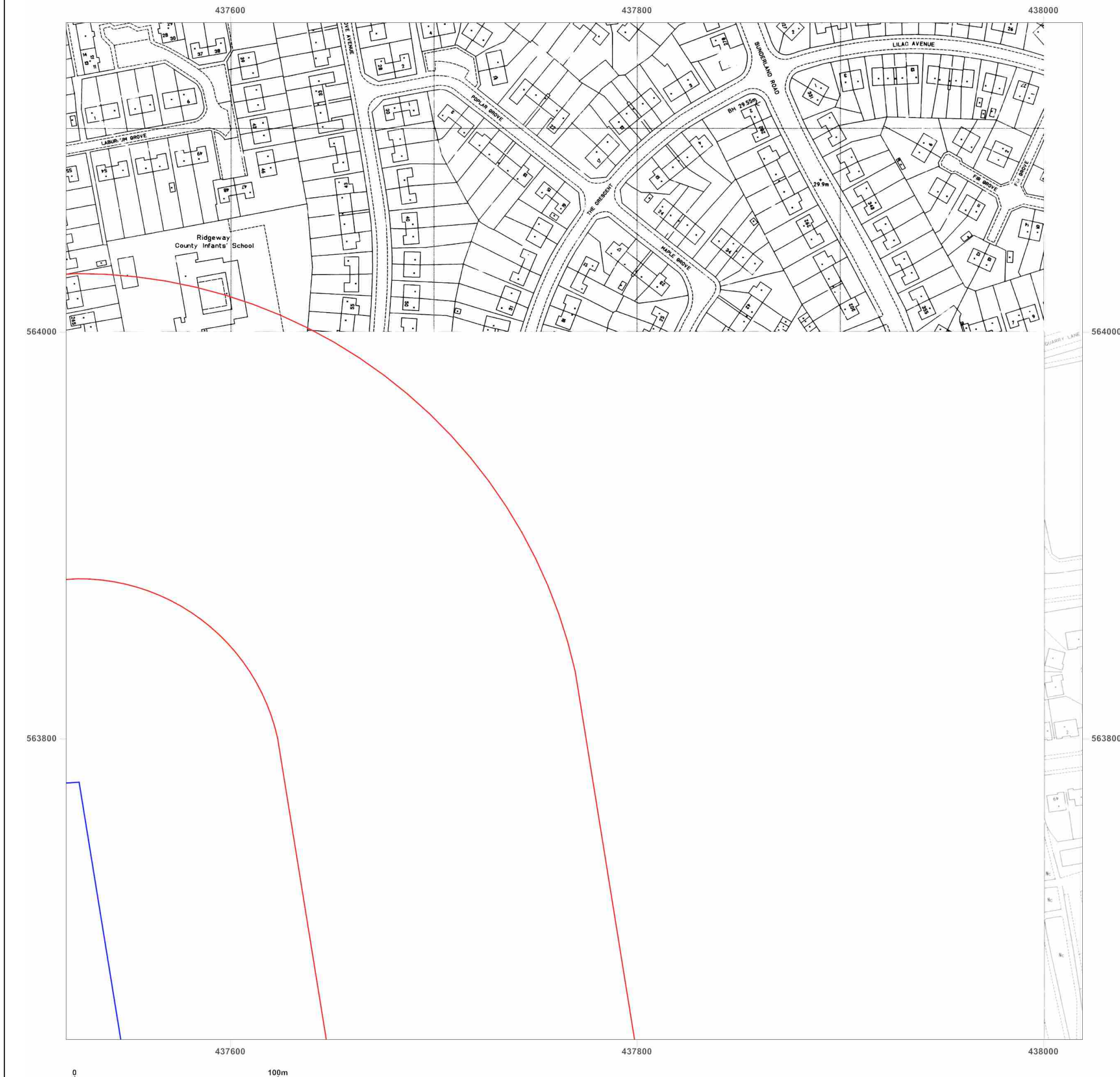


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_1250scale_3_2
Grid Ref: 437769, 563902

Map Name: National Grid

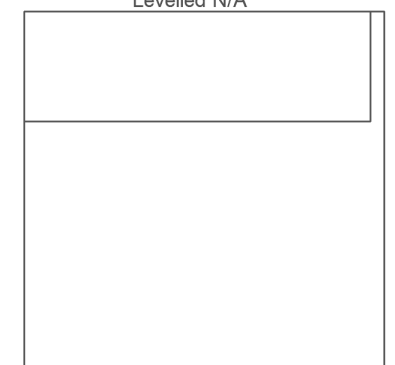
Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000



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

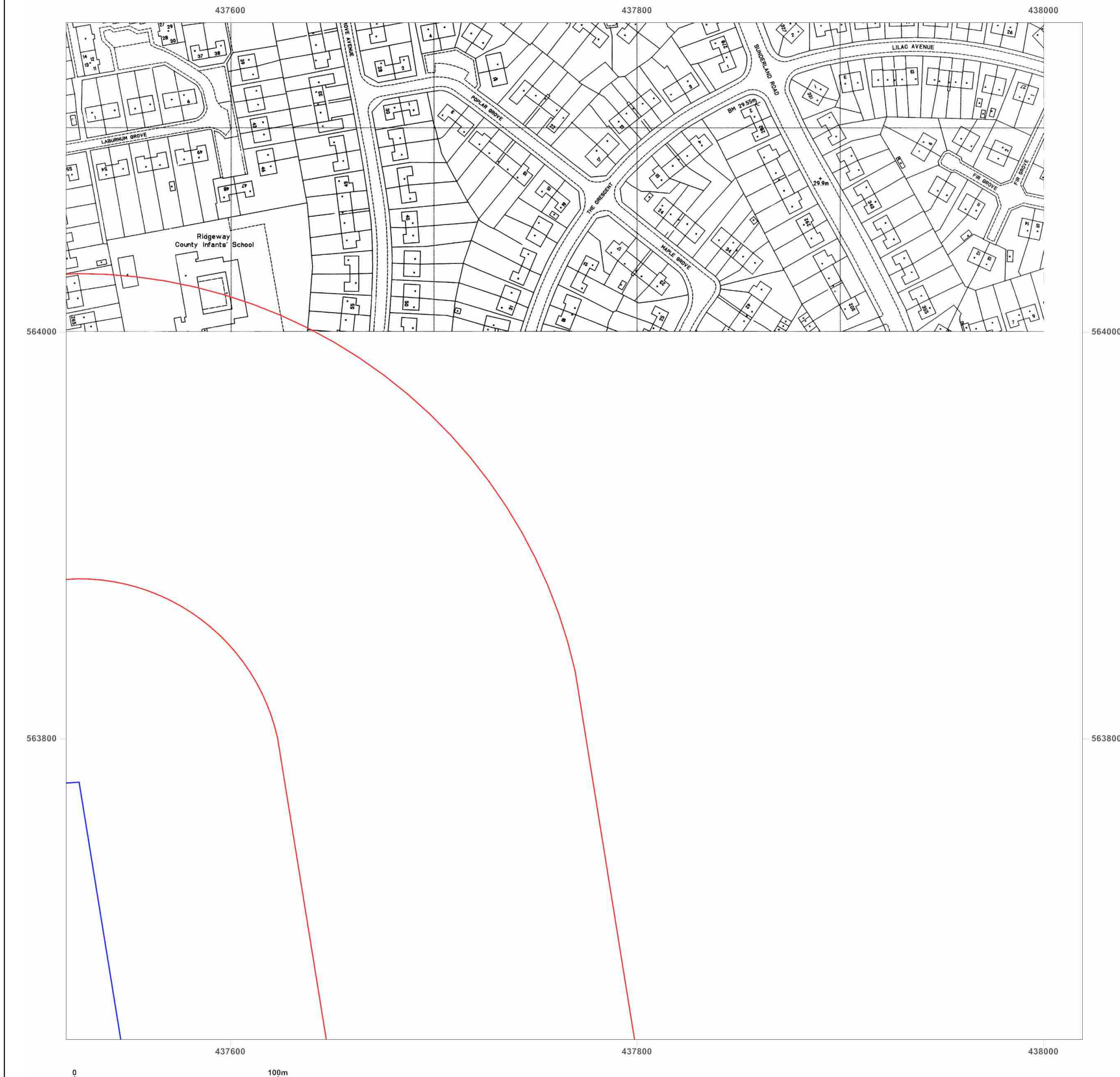


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_1
Grid Ref: 436956, 563340

Map Name: County Series

Map date: 1857

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1857
Revised 1857
Edition N/A
Copyright N/A
Levelled N/A

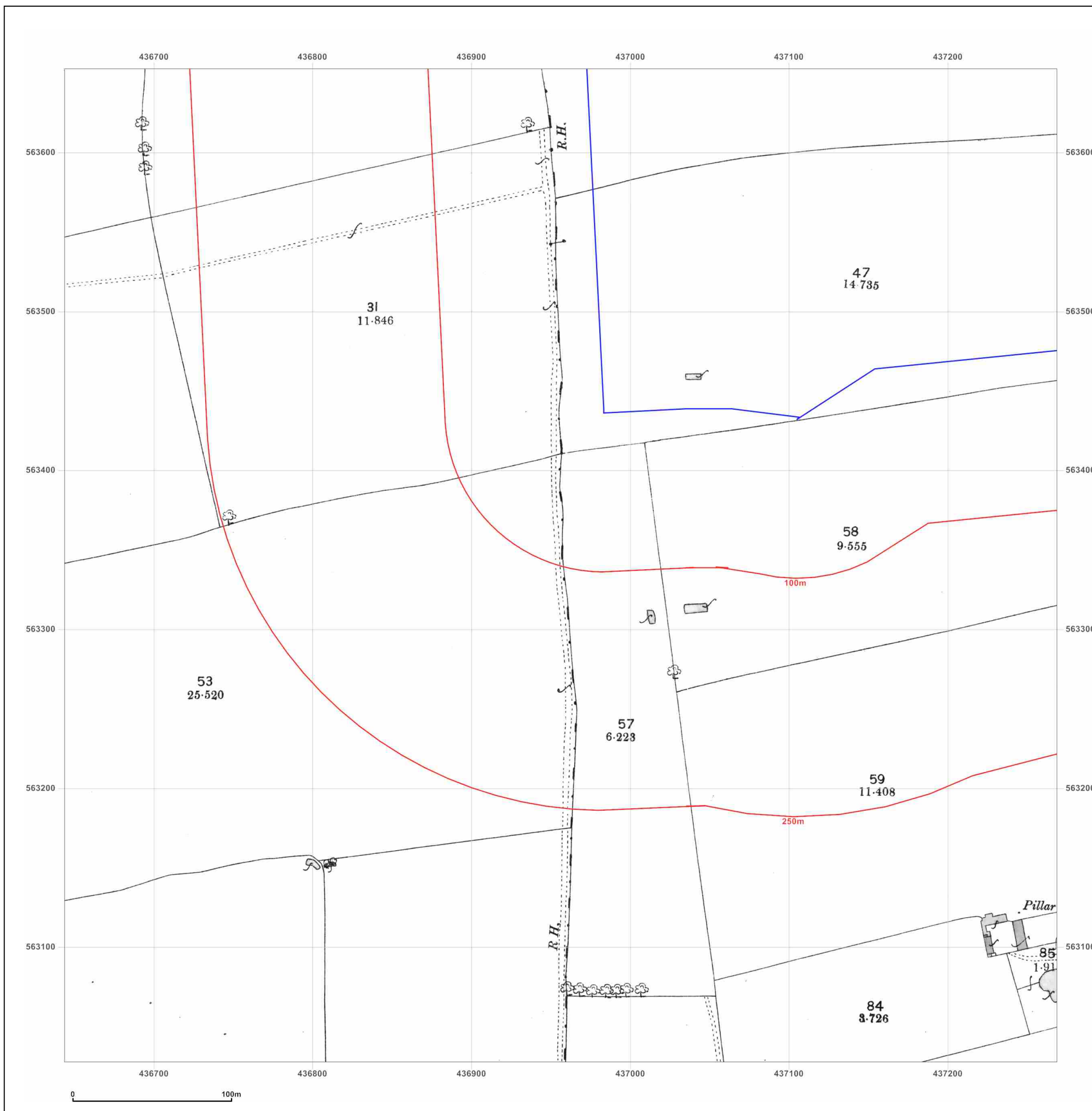


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_1
Grid Ref: 436956, 563340

Map Name: County Series

Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1897
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

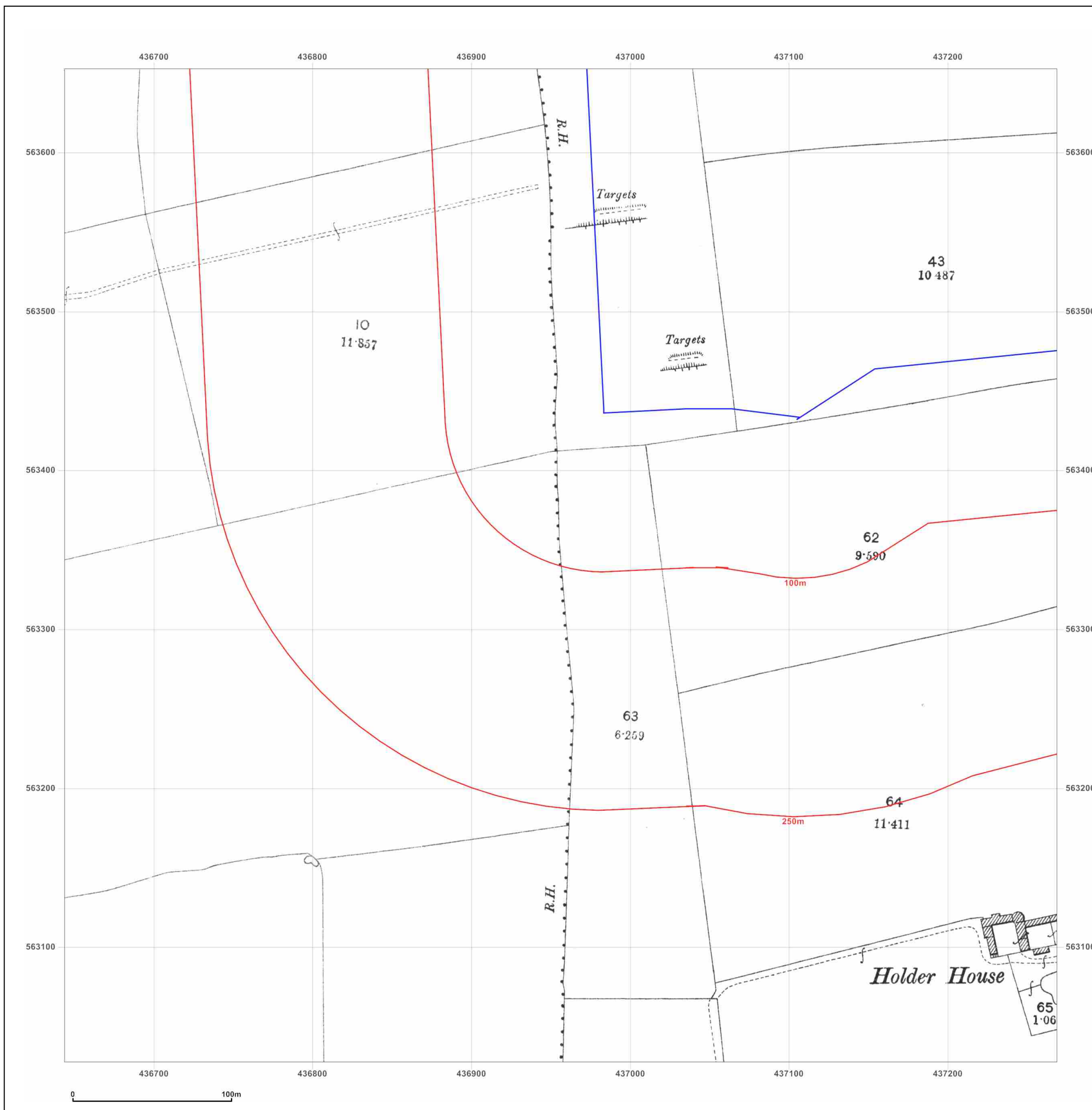


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_1
Grid Ref: 436956, 563340

Map Name: County Series

Map date: 1942

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1942
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

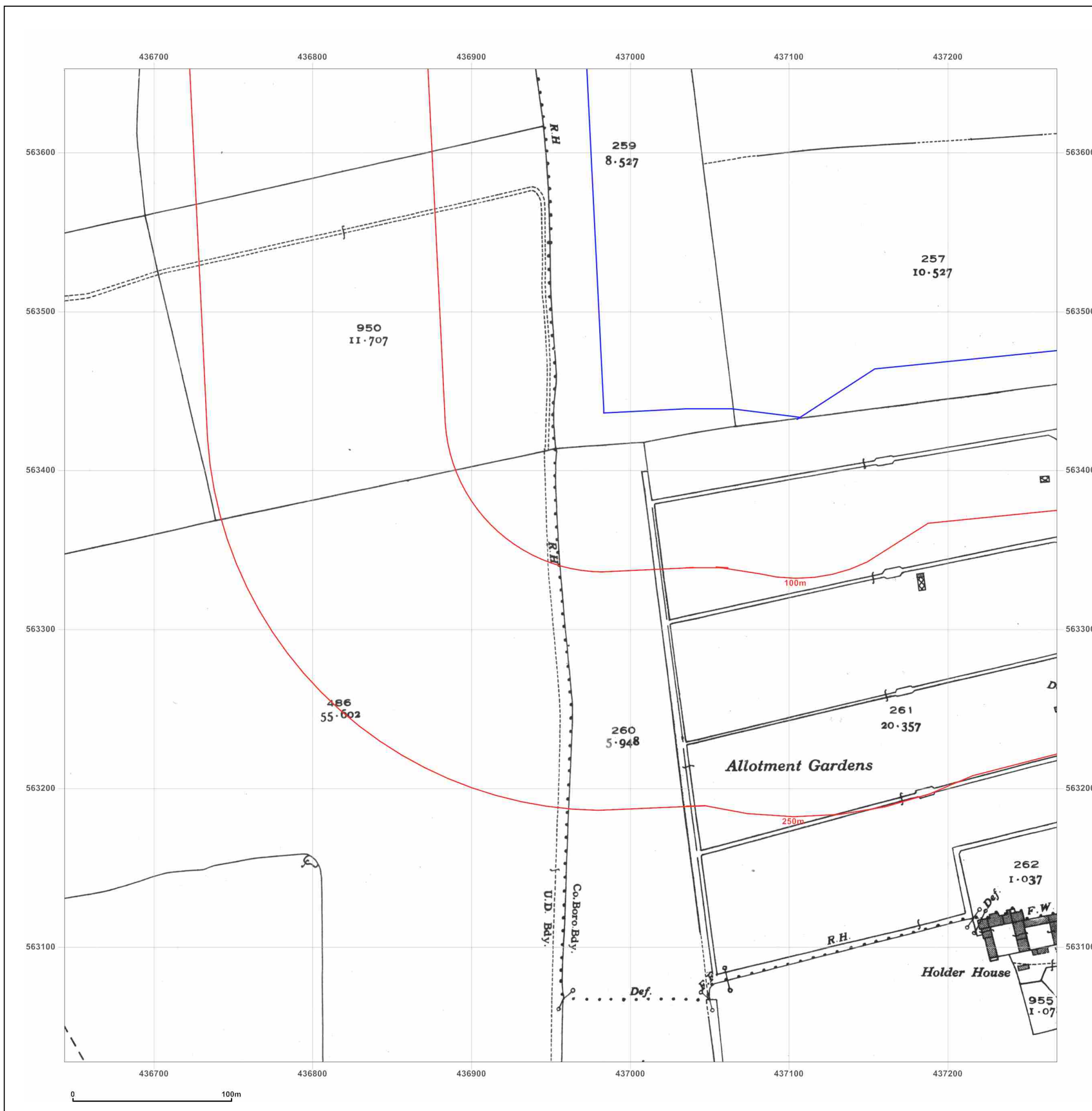


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_1
Grid Ref: 436956, 563340

Map Name: National Grid

Map date: 1958

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1958
Revised 1958
Edition 1959
Copyright 1959
Levelled 1939

Surveyed 1958
Revised 1958
Edition 1959
Copyright 1959
Levelled 1939

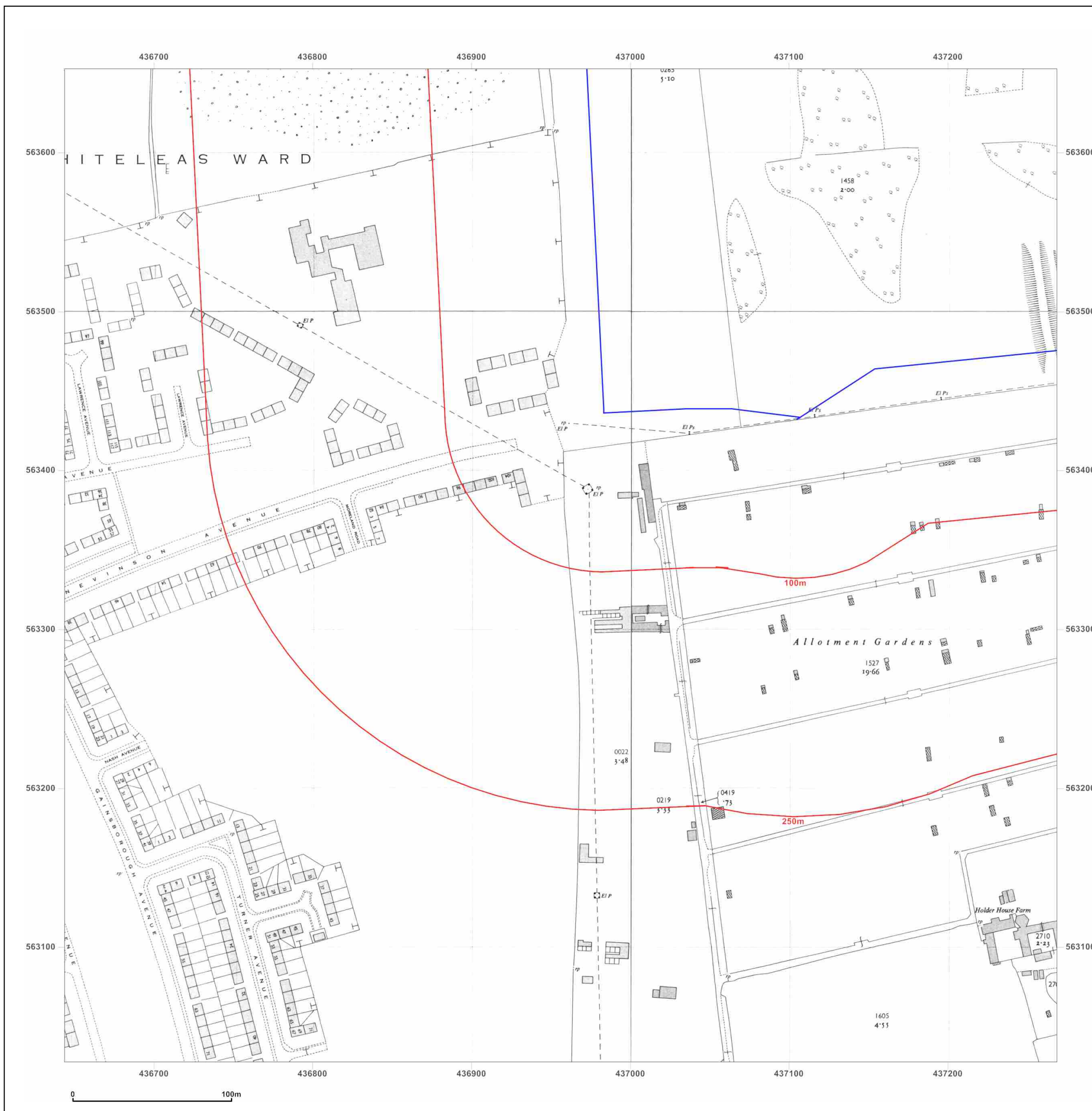


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_1
Grid Ref: 436956, 563340

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1970
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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_2
Grid Ref: 436956, 563965

Map Name: County Series

Map date: 1915-1916

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1916
Revised 1916
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1915
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A

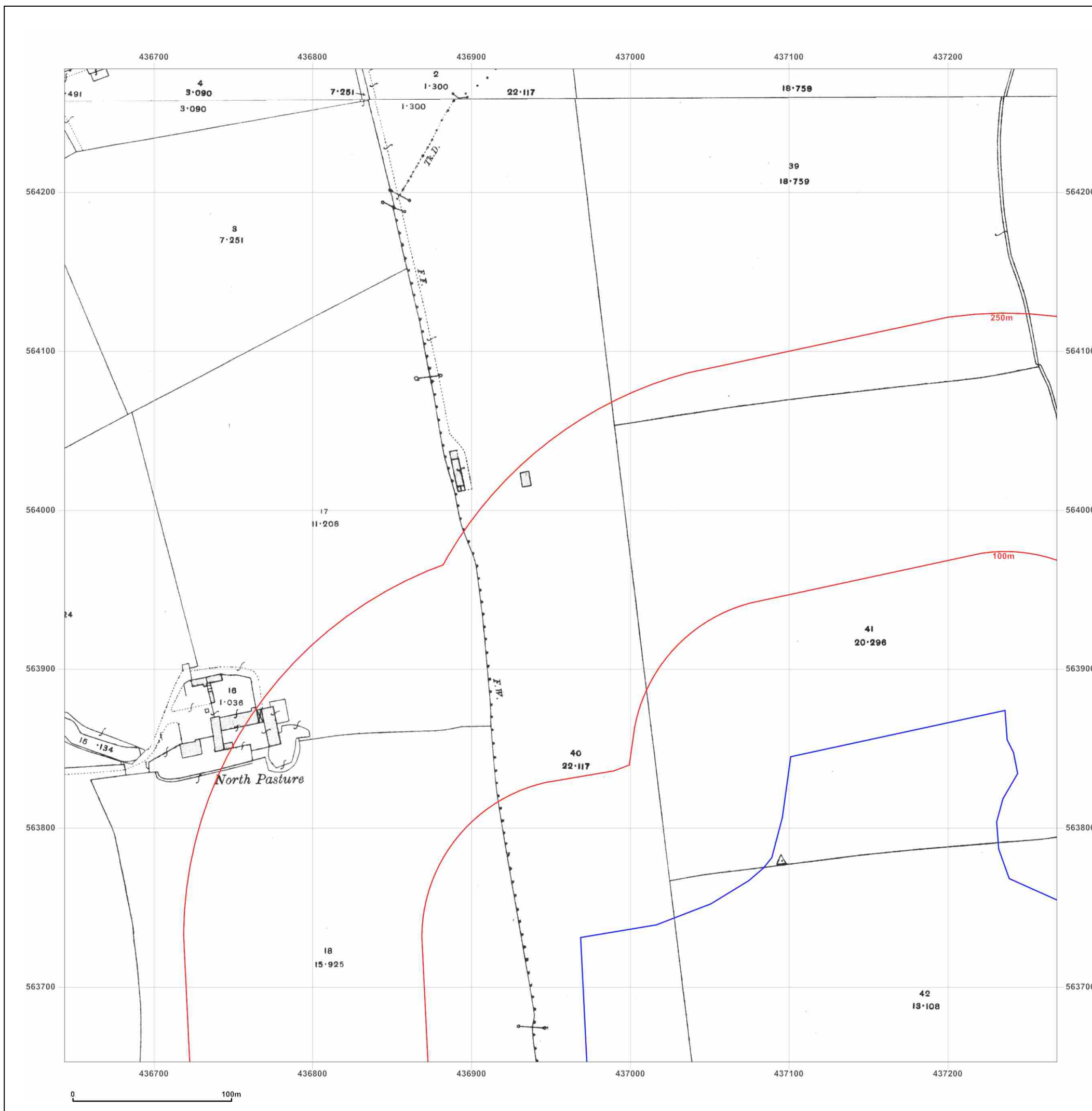


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_2
Grid Ref: 436956, 563965

Map Name: County Series

Map date: 1942

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1942
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1942
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

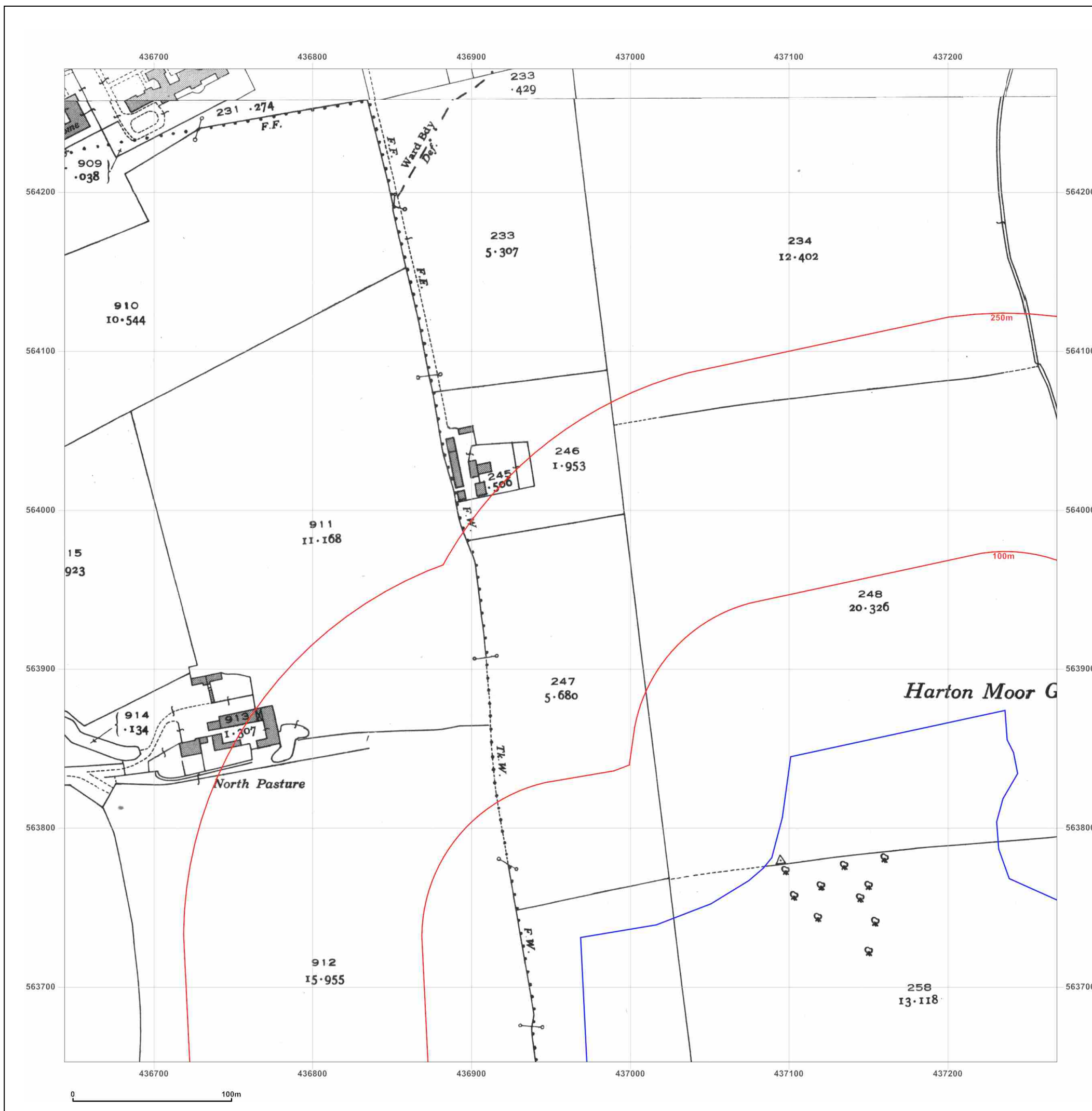


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_2
Grid Ref: 436956, 563965

Map Name: National Grid

Map date: 1955-1958

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1956
Revised 1956
Edition 1956
Copyright N/A
Levelled 1939

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition 1959
Copyright 1959
Levelled 1939

Surveyed 1958
Revised 1958
Edition 1959
Copyright 1959
Levelled 1939

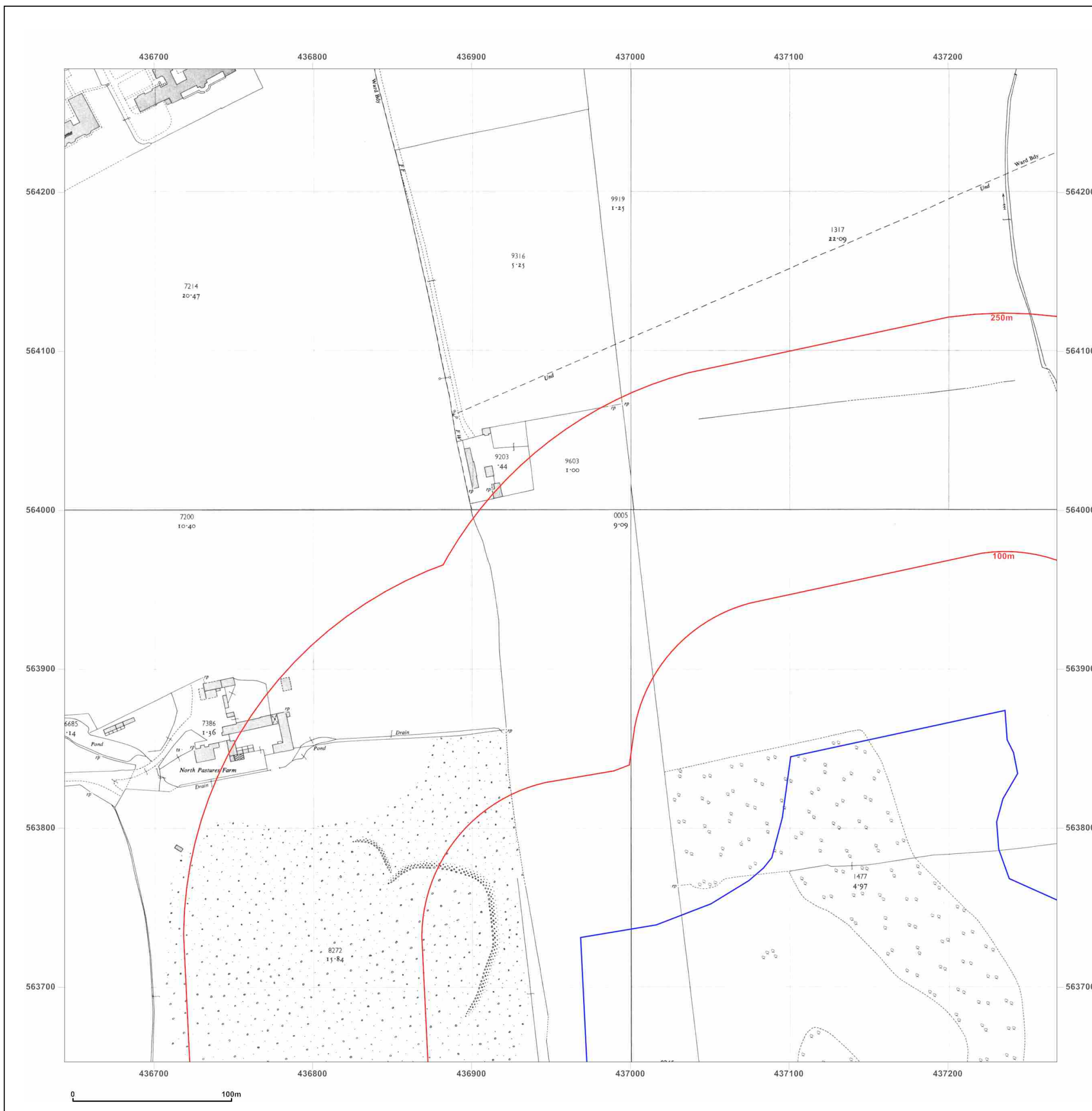


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_1_2
Grid Ref: 436956, 563965

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1970
Levelled 1963

Surveyed 1968
Revised 1968
Edition N/A
Copyright 1970
Levelled N/A

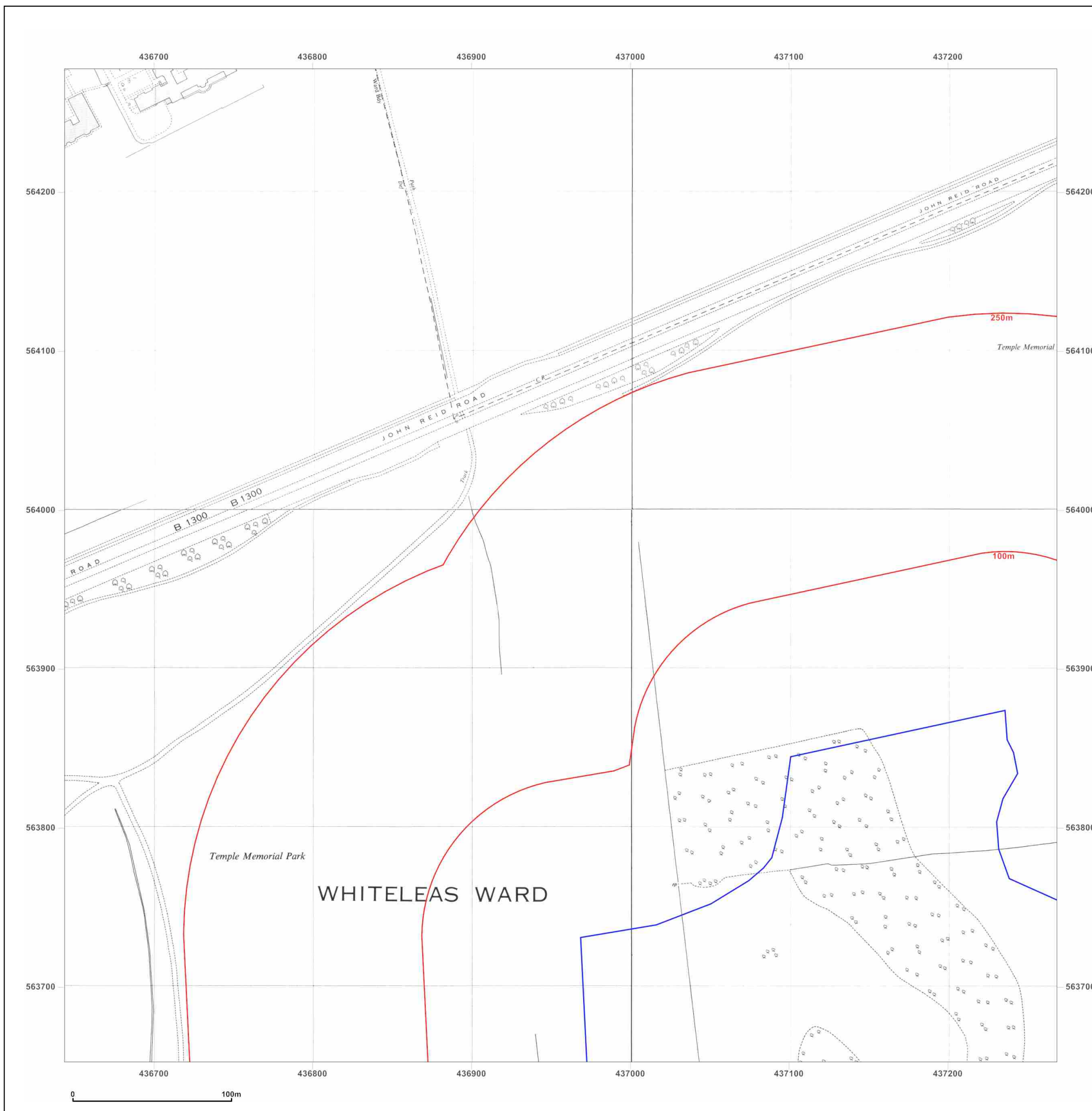


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_1
Grid Ref: 437581, 563340

Map Name: County Series

Map date: 1857

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1857
Revised 1857
Edition N/A
Copyright N/A
Levelled N/A

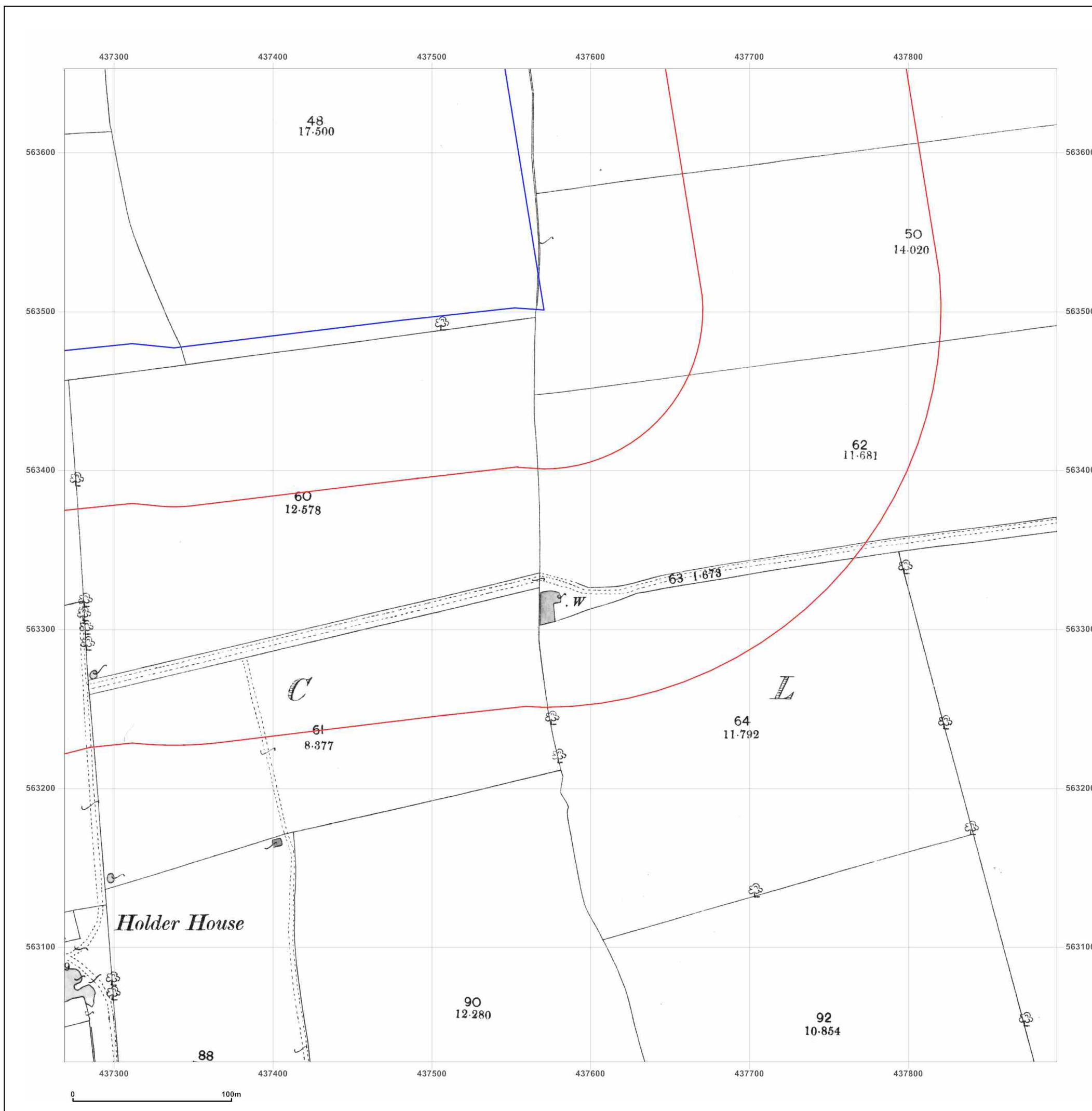


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_1
Grid Ref: 437581, 563340

Map Name: County Series

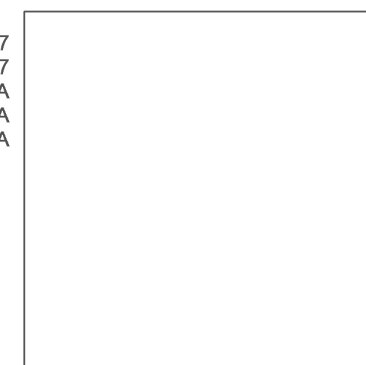
Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1897
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

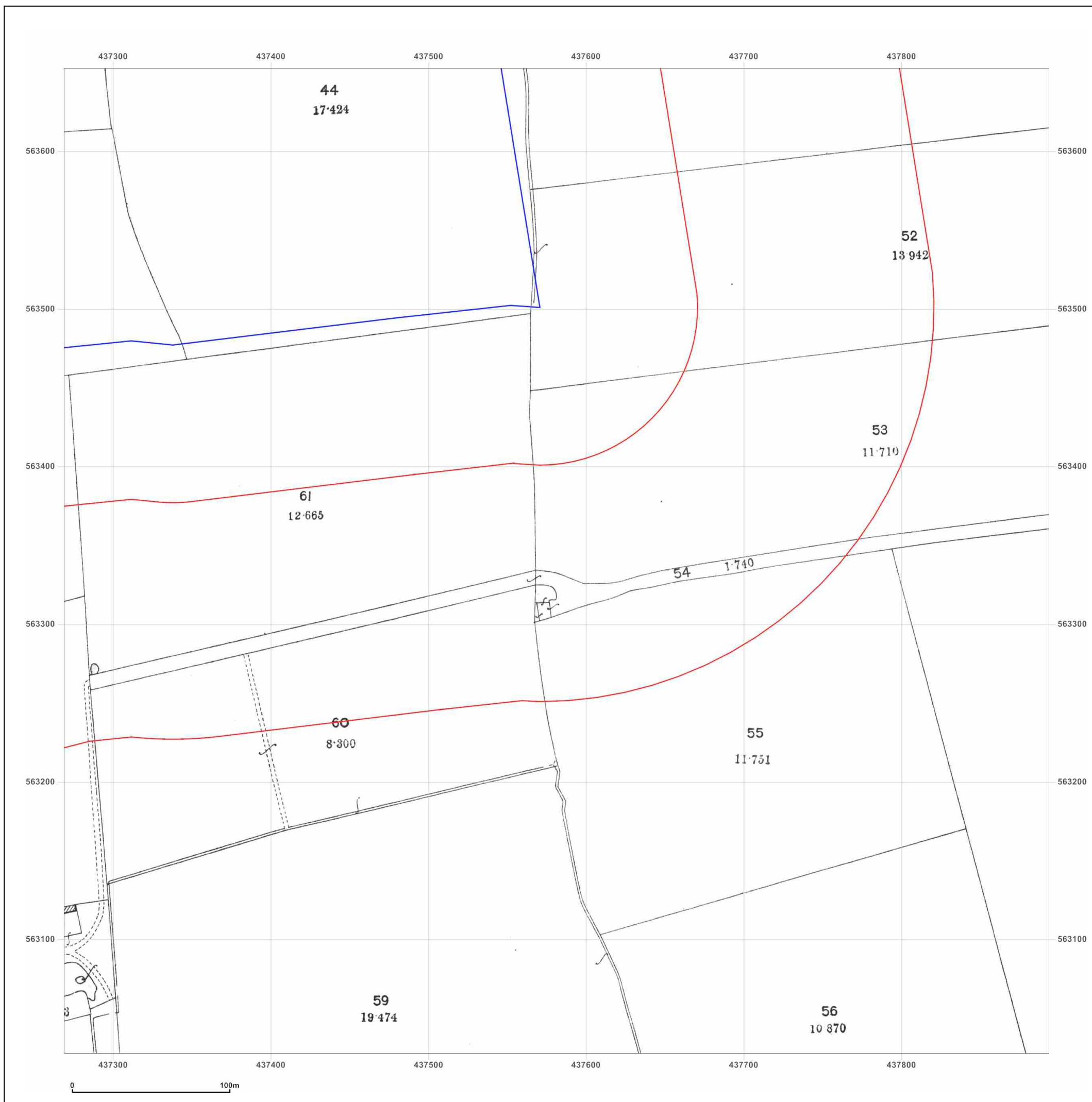


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_1
Grid Ref: 437581, 563340

Map Name: County Series

Map date: 1915

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1915
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A

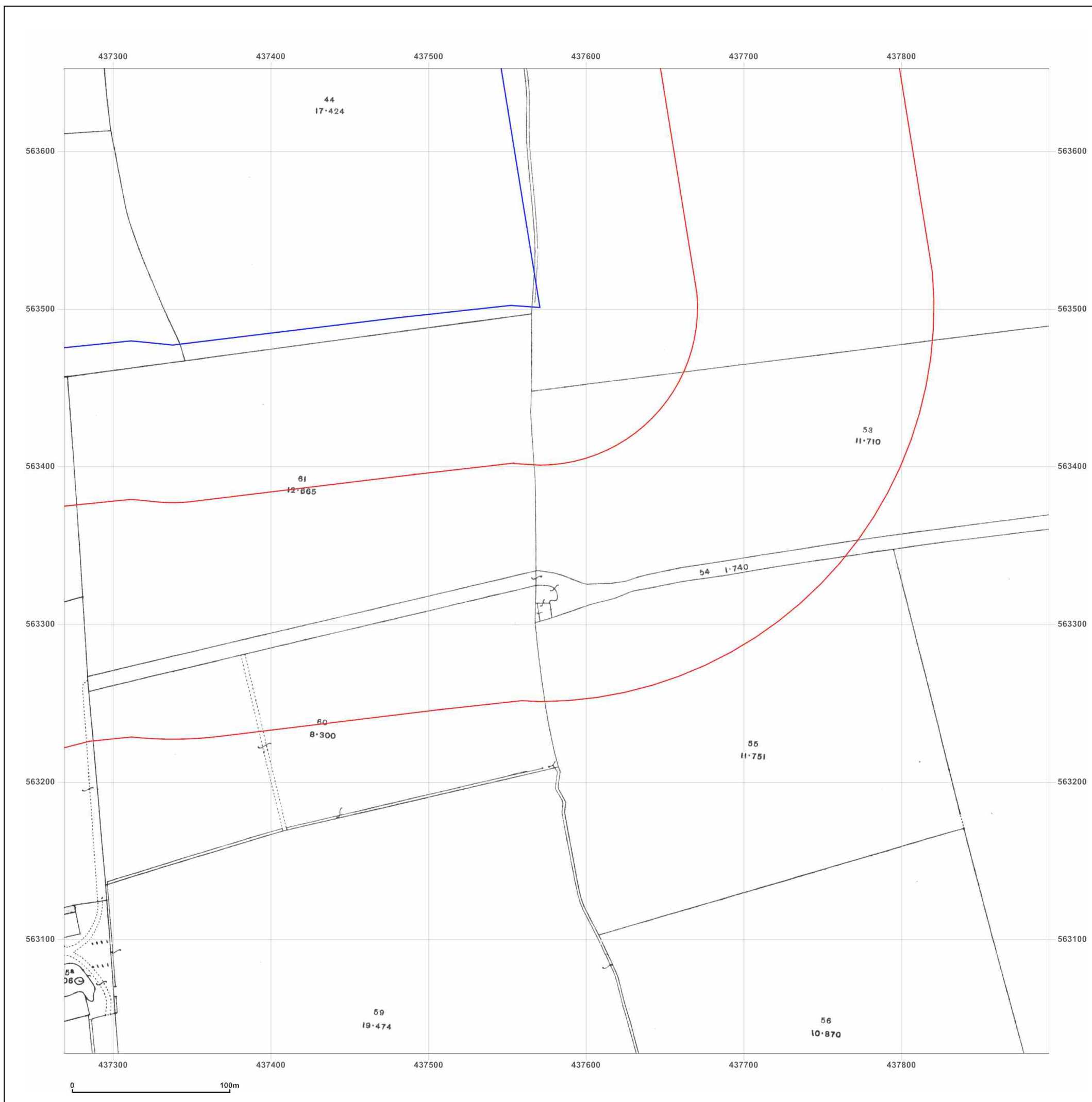


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_1
Grid Ref: 437581, 563340

Map Name: County Series

Map date: 1942

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1942
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

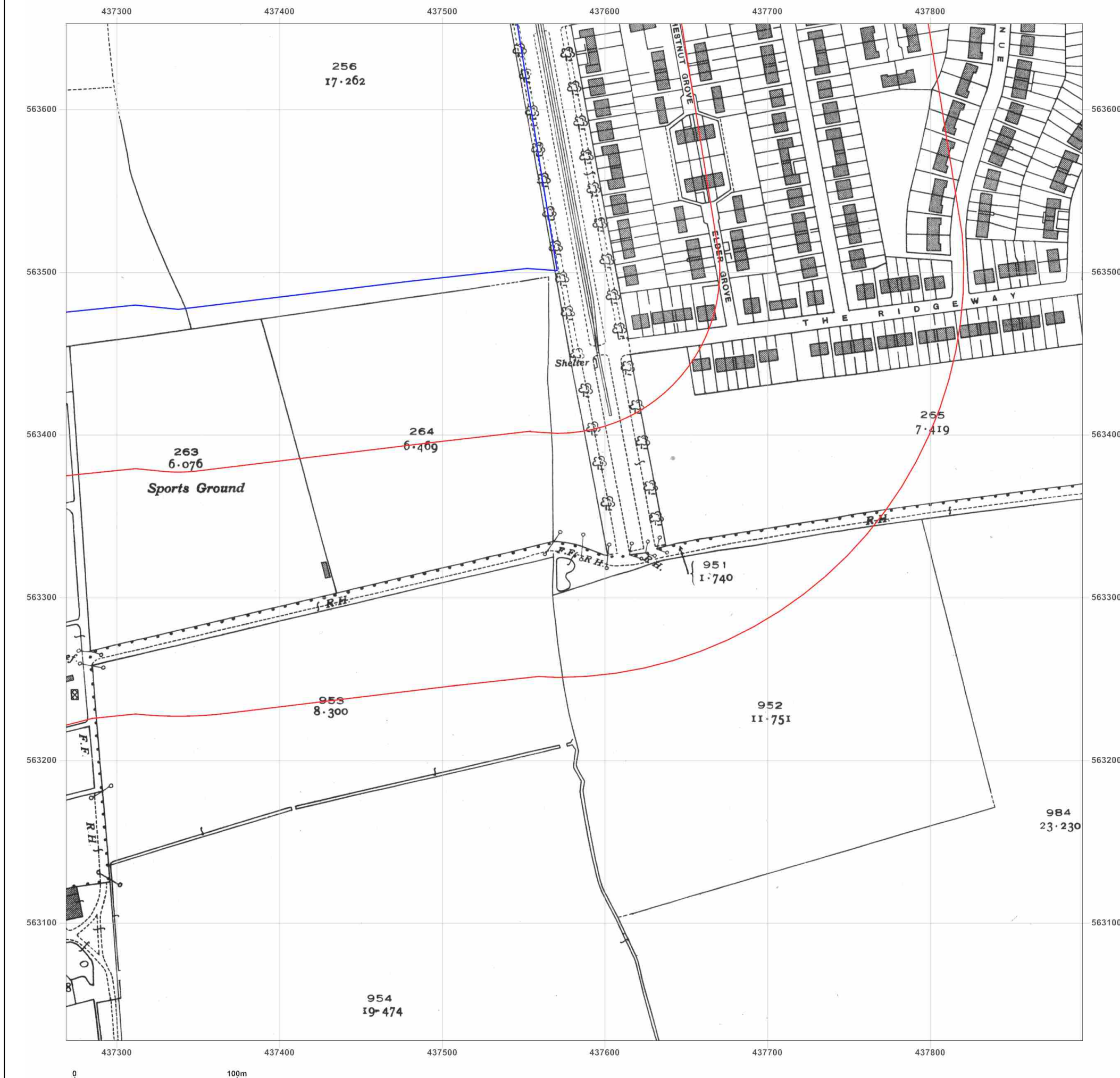


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_1
Grid Ref: 437581, 563340

Map Name: National Grid

Map date: 1958

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1958
Revised 1958
Edition 1959
Copyright 1959
Levelled 1939

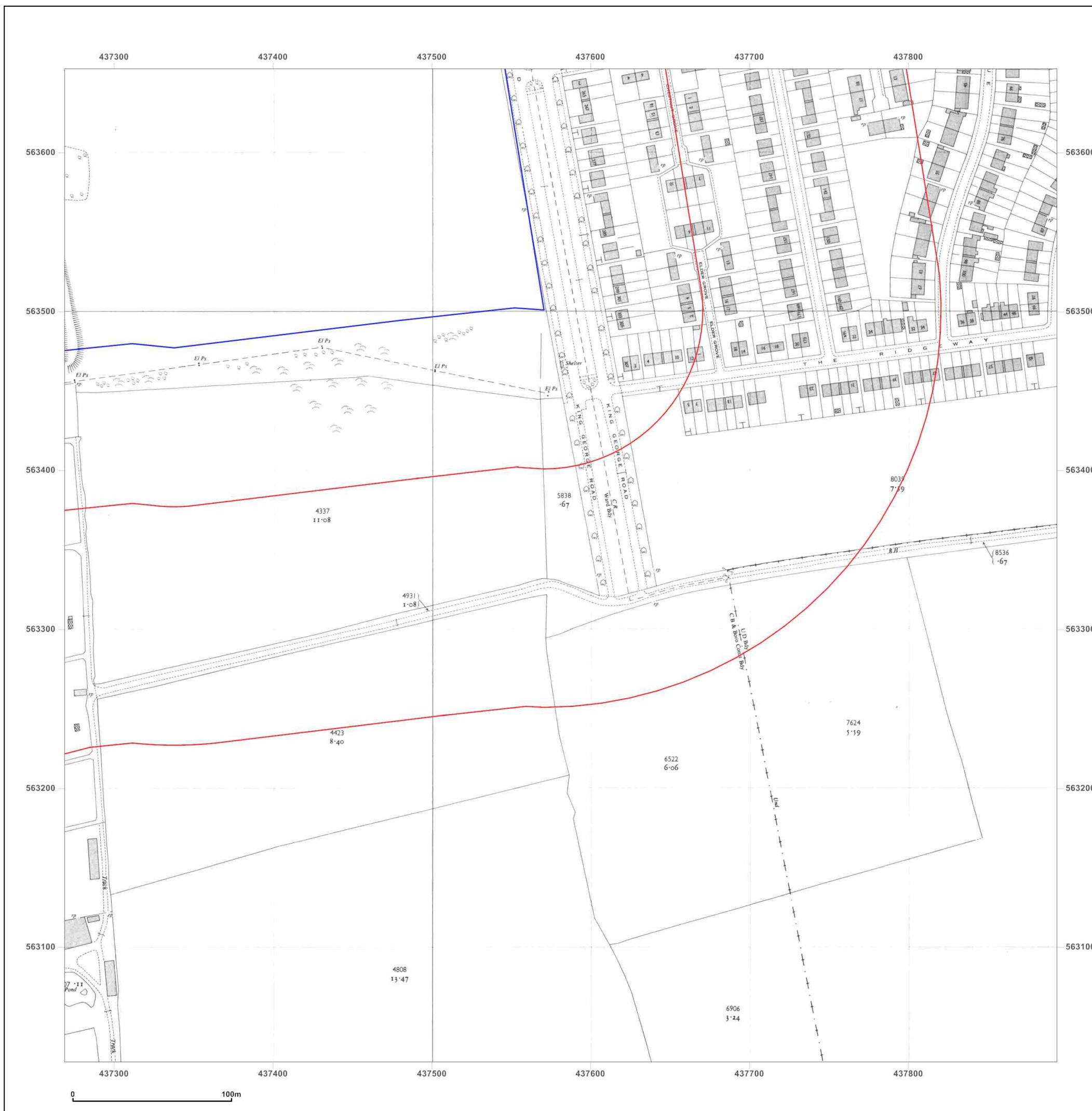


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_1
Grid Ref: 437581, 563340

Map Name: National Grid

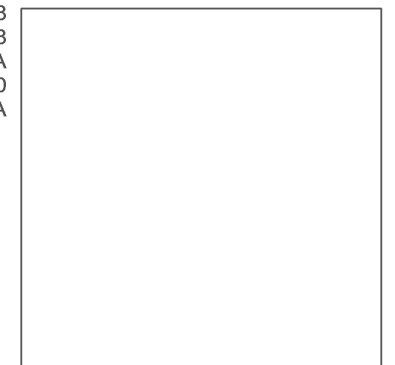
Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1970
Levelled N/A



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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_2
Grid Ref: 437581, 563965

Map Name: County Series

Map date: 1857

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed 1857
Revised 1857
Edition N/A
Copyright N/A
Levelled N/A

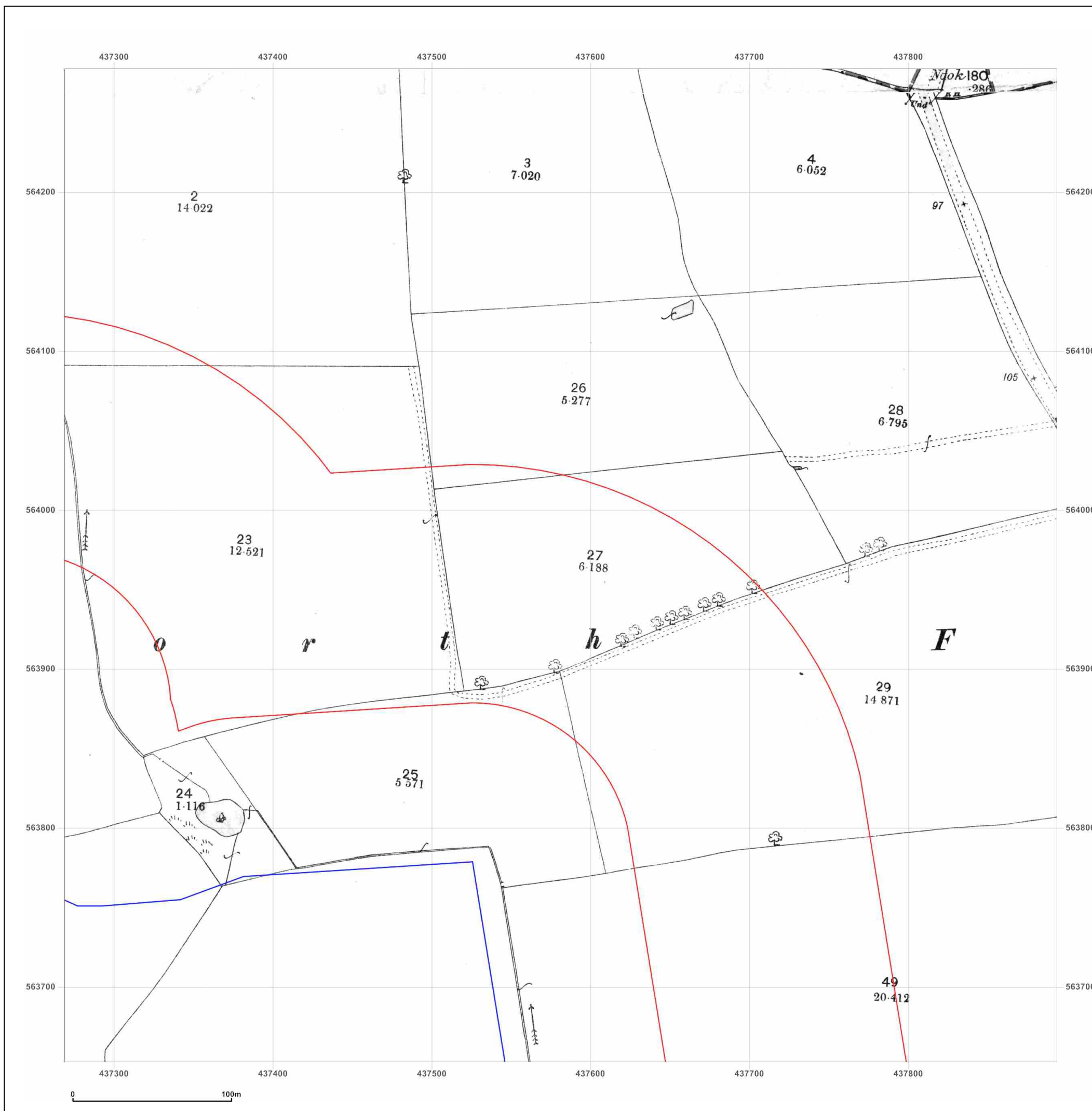


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_2
Grid Ref: 437581, 563965

Map Name: County Series

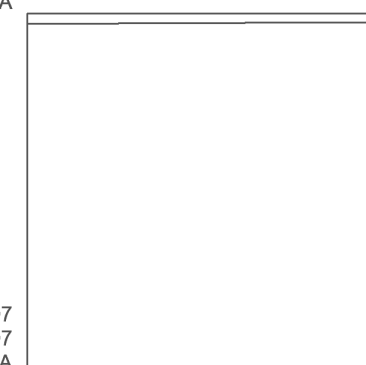
Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1897
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1897
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

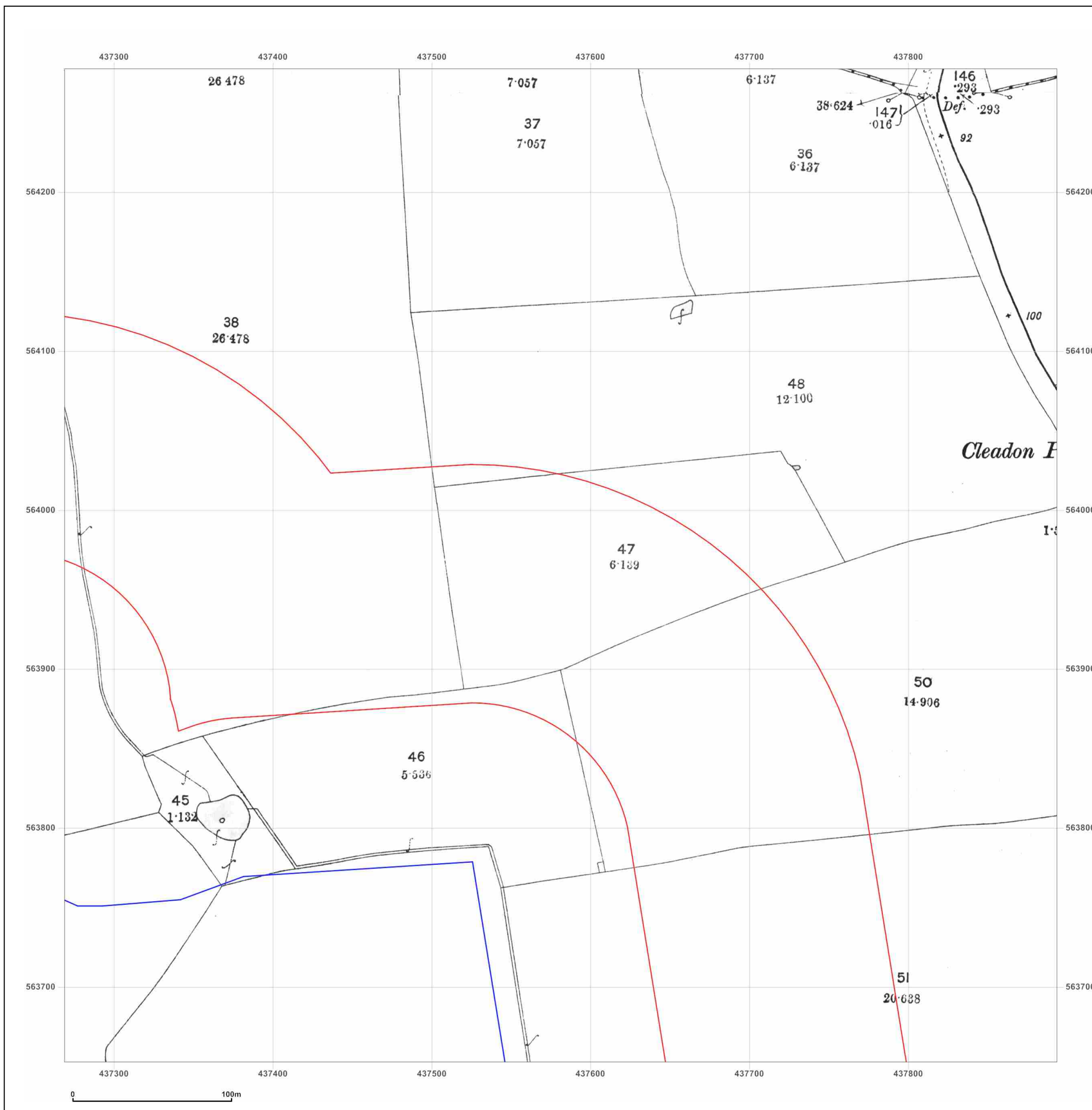


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_2
Grid Ref: 437581, 563965

Map Name: County Series

Map date: 1915-1916

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1916
Revised 1916
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1915
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A

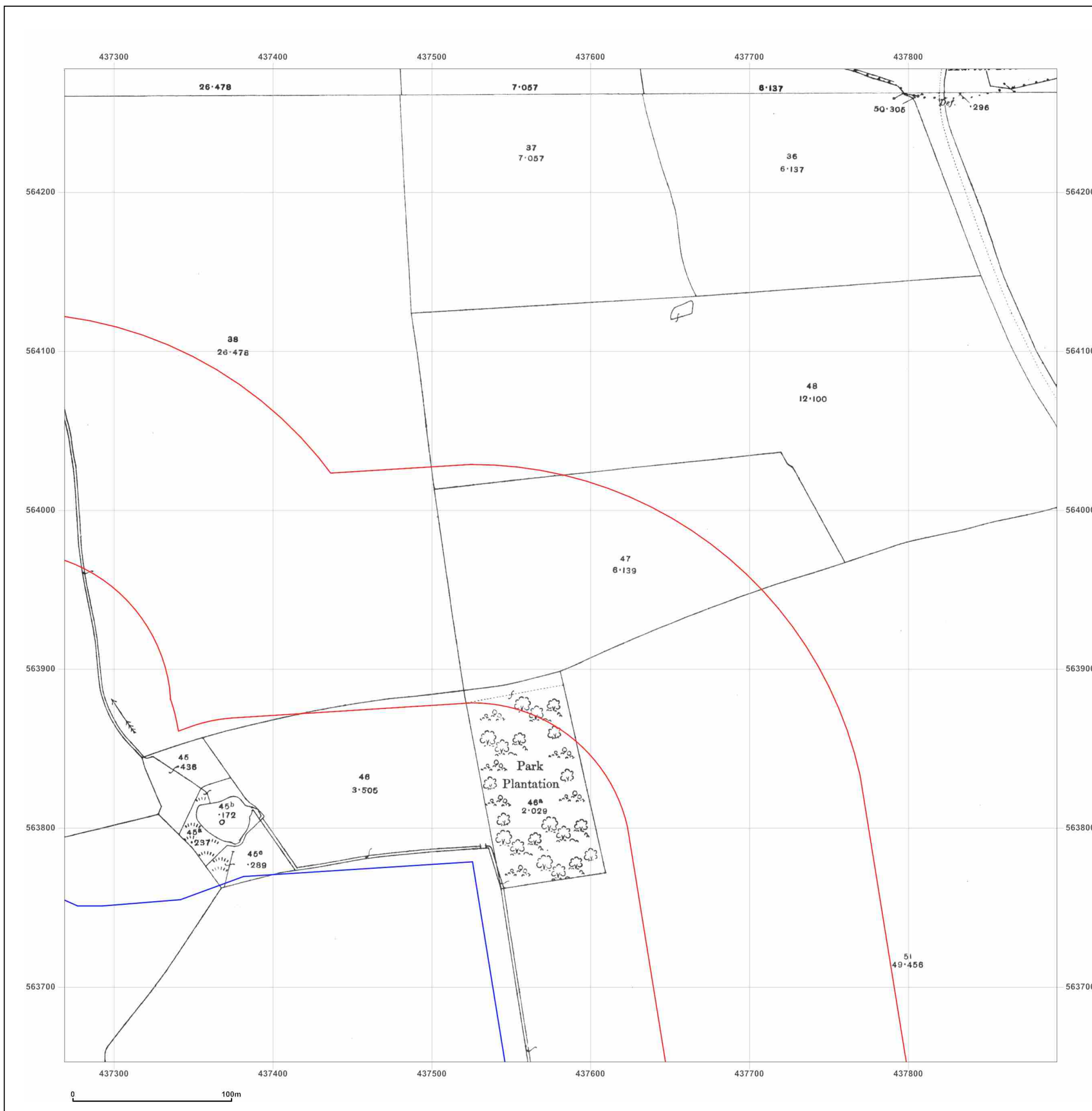


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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_2
Grid Ref: 437581, 563965

Map Name: County Series

Map date: 1942

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1942
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1942
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_2
Grid Ref: 437581, 563965

Map Name: National Grid

Map date: 1955-1958

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1939

Surveyed 1958
Revised 1958
Edition 1959
Copyright 1959
Levelled 1939



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Site Details:

TEMPLE MEMORIAL PARK,
SOUTH SHIELDS, NE34 8QN

Client Ref: JCC17-051
Report Ref: GS-4130894_LS_2_2
Grid Ref: 437581, 563965

Map Name: National Grid

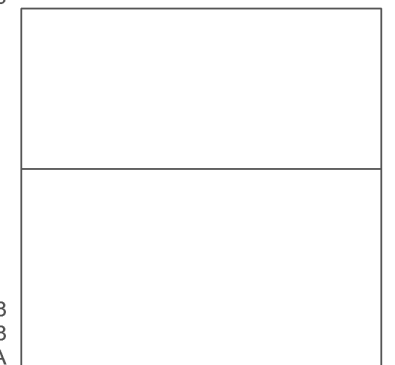
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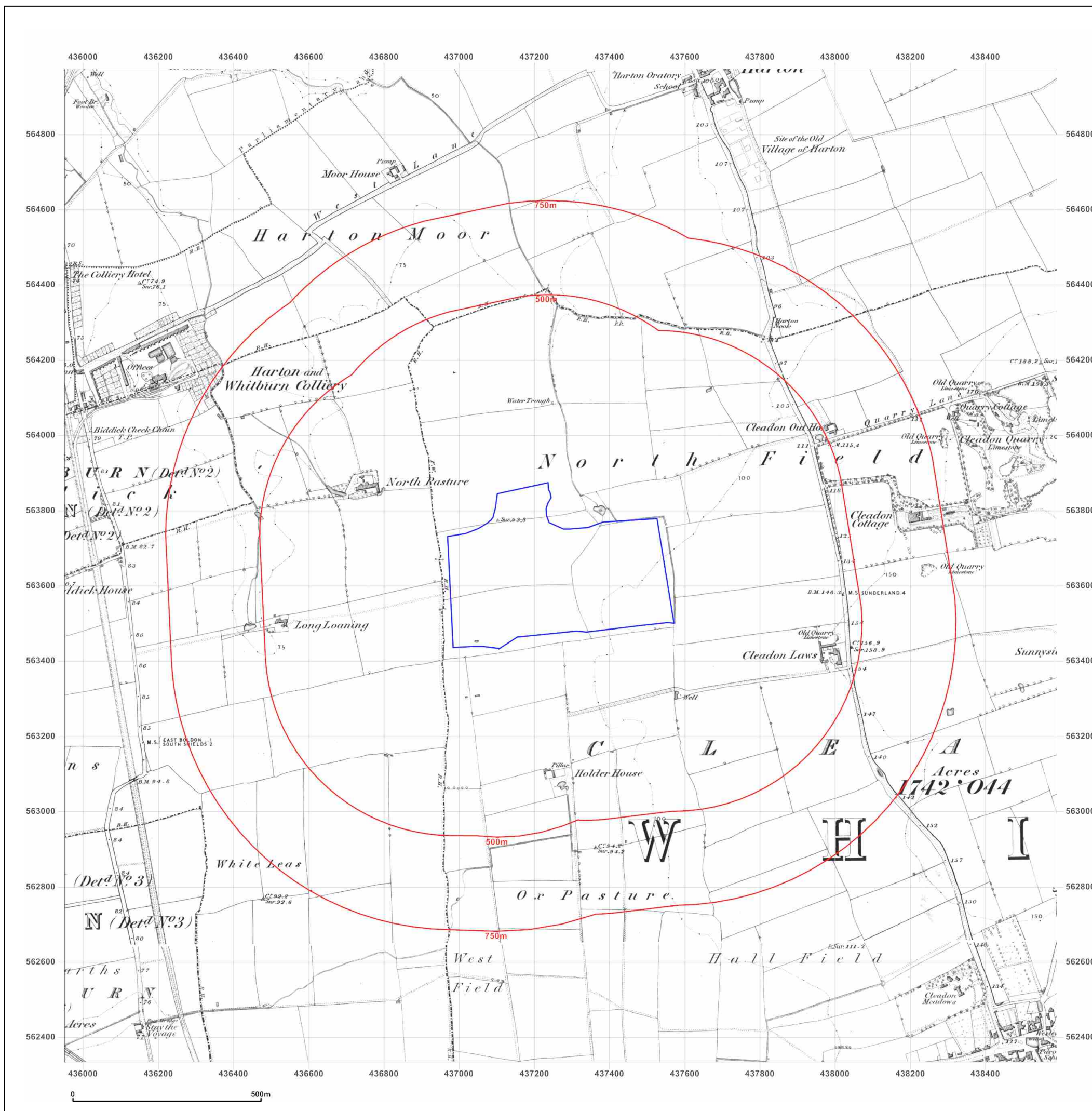


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Grid Ref: 437269, 563653

Map Name: County Series

Map date: 1858

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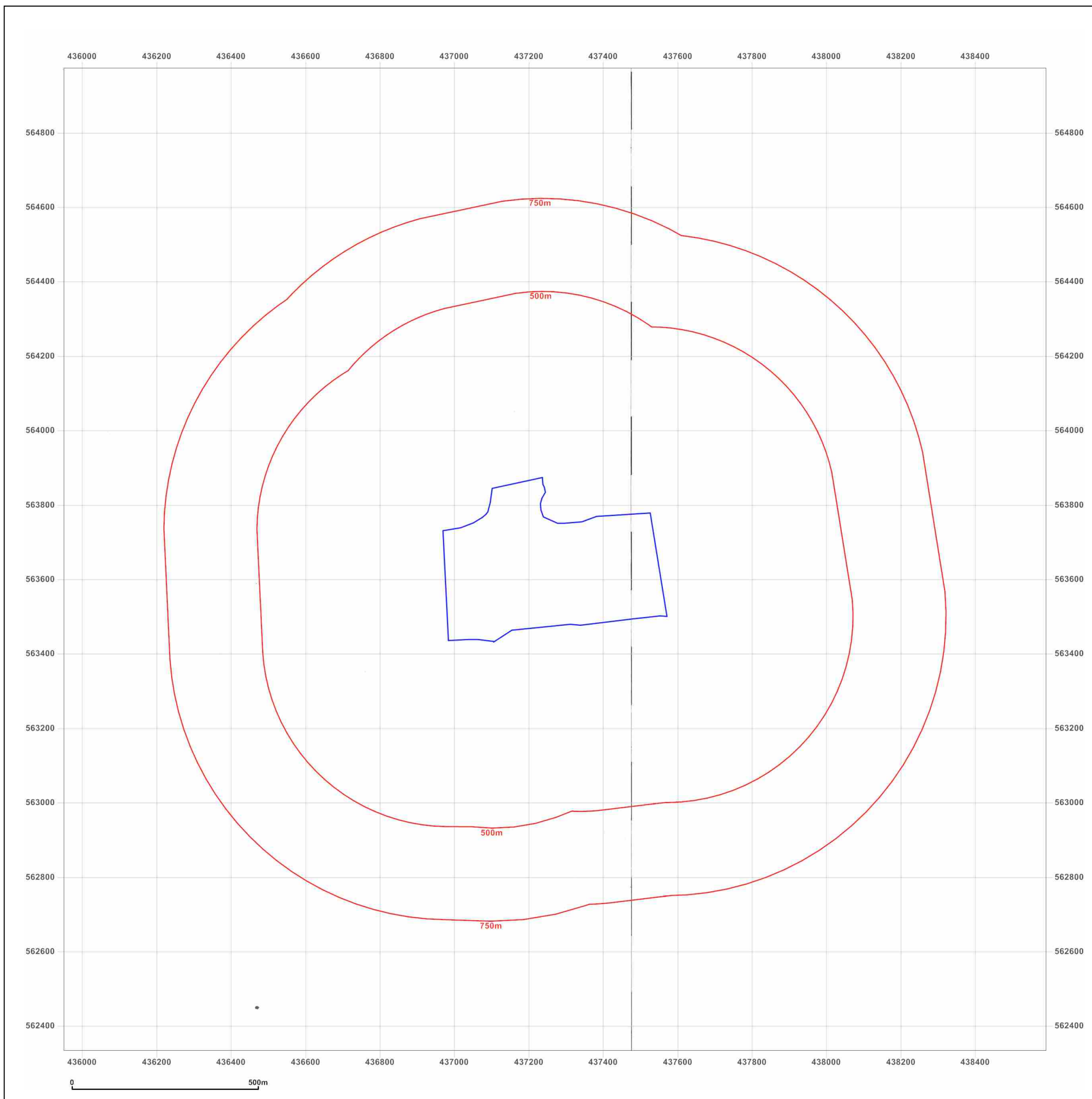


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Map Name: County Series

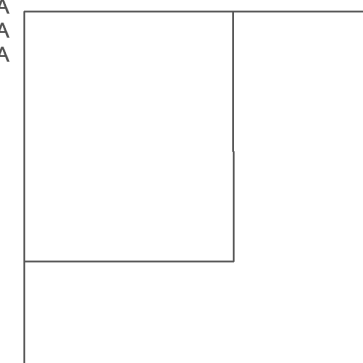
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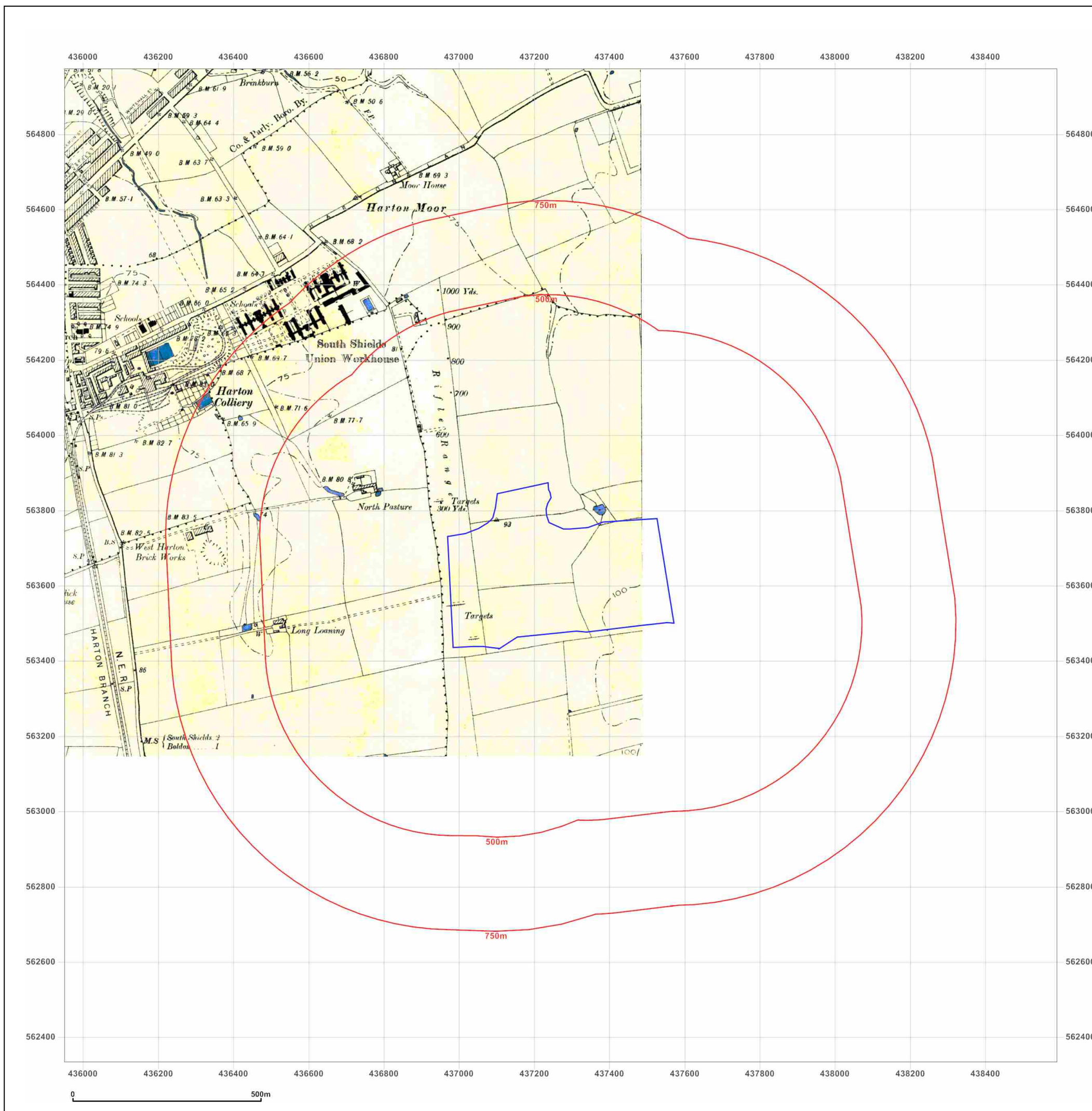


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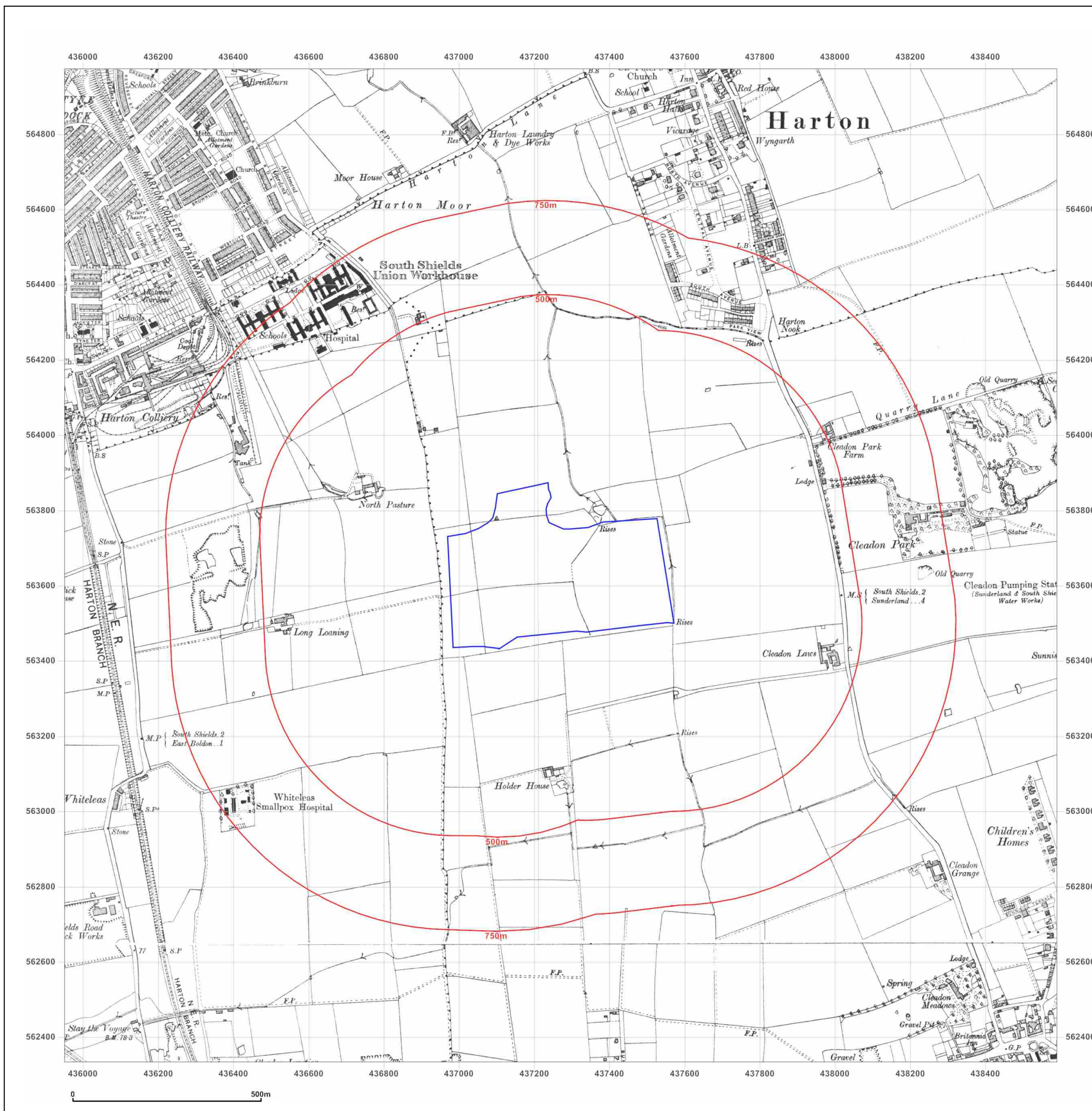


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Edition 1921
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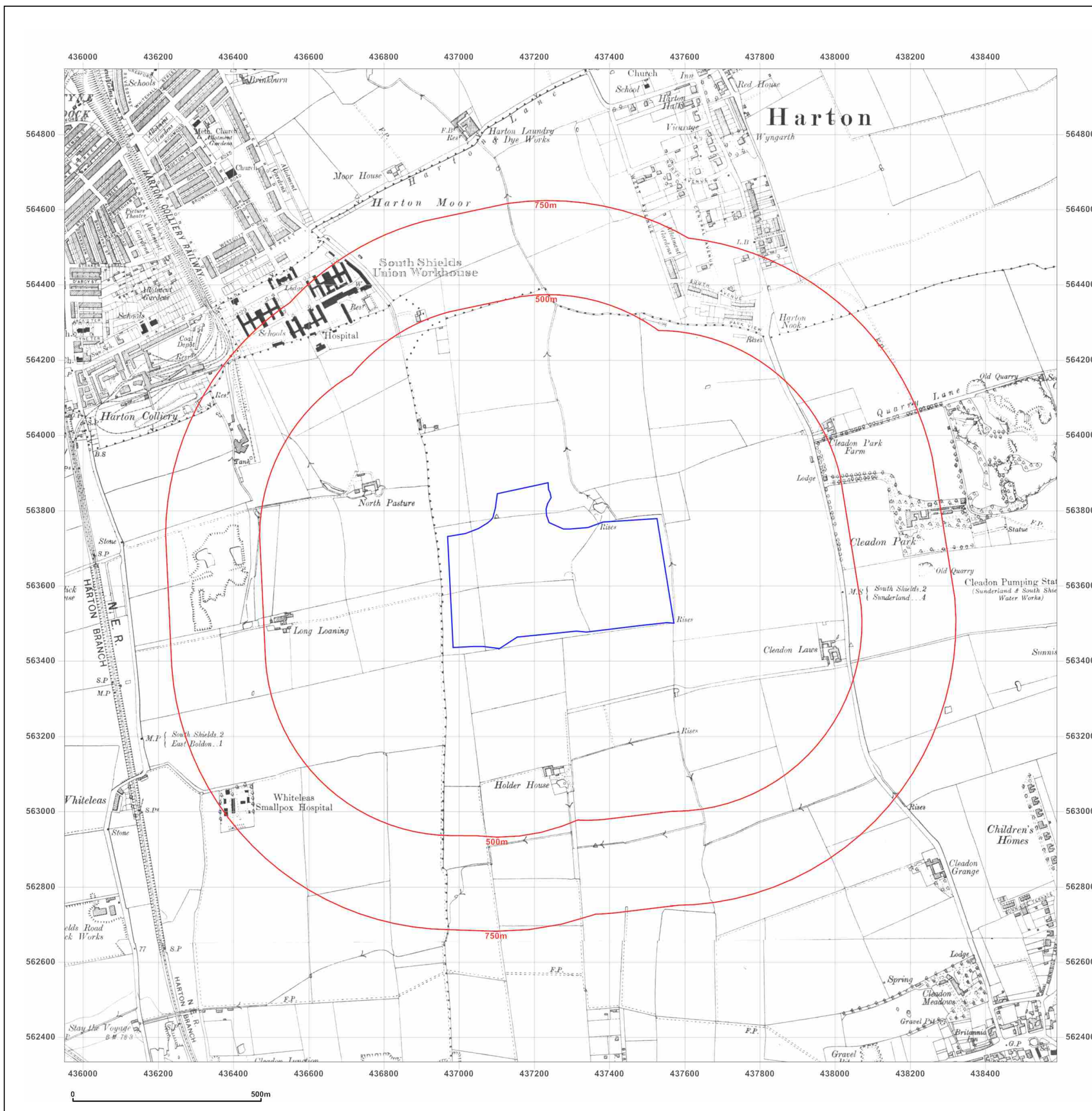


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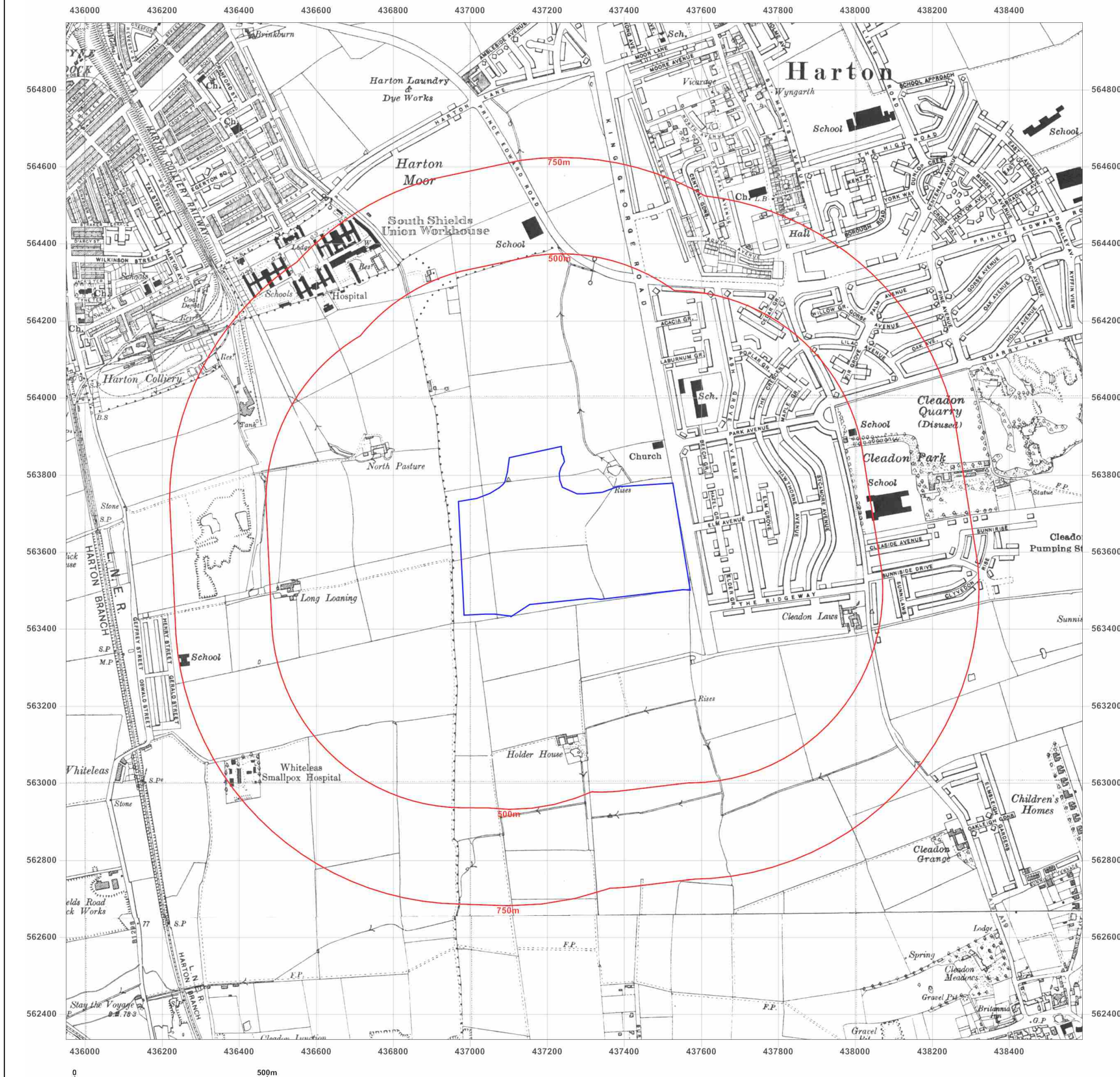


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Map Name: Provisional

Map date: 1951

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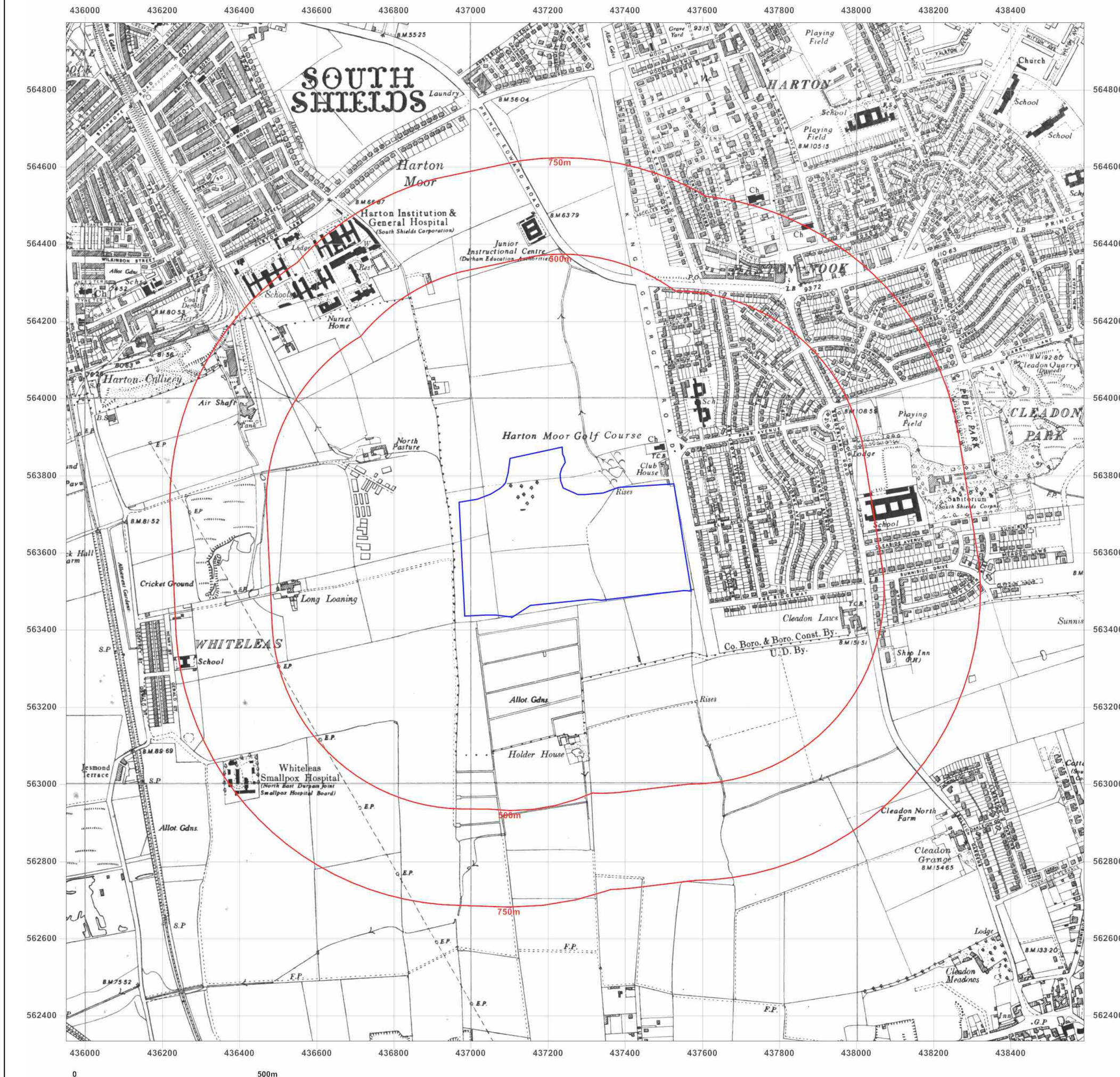


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Map Name: National Grid

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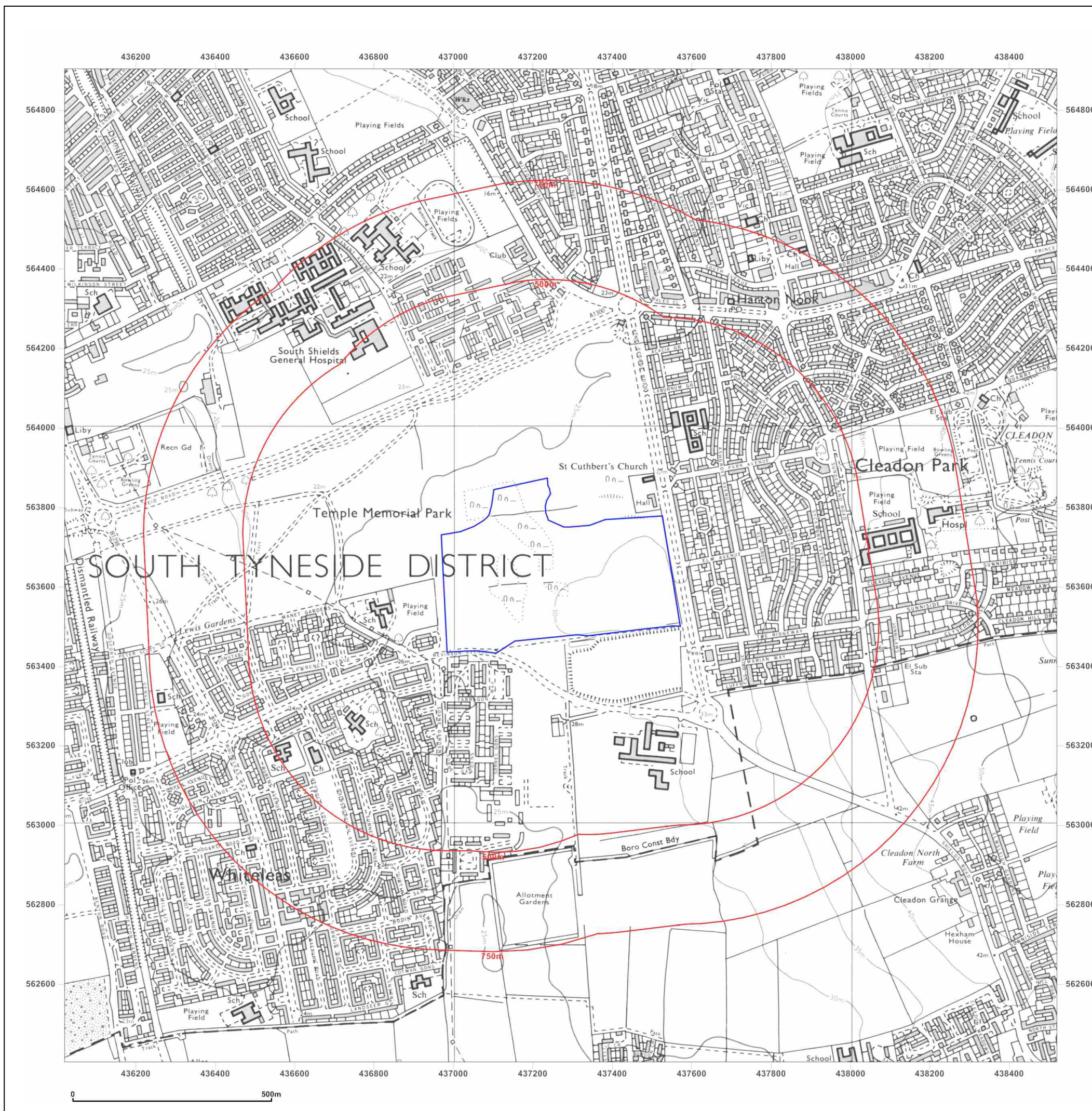


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Report Ref: GS-4130894
Grid Ref: 437269, 563653

Map Name: National Grid

Map date: 1985

Scale: 1:10,000

Printed at: 1:10,000



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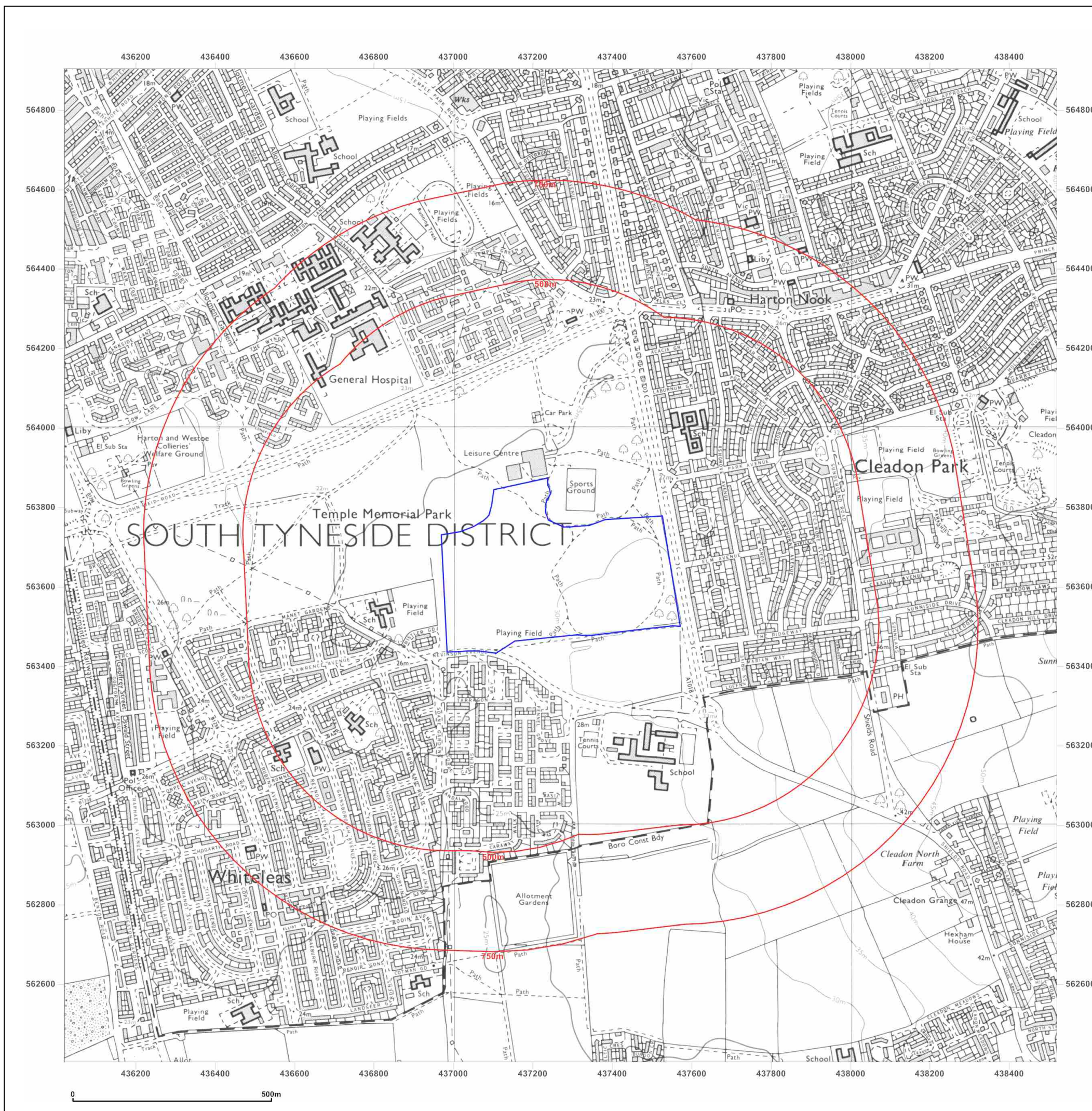


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Report Ref: GS-4130894
Grid Ref: 437269, 563653

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



2002



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Grid Ref: 437269, 563653

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

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2010



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Report Ref: GS-4130894
Grid Ref: 437269, 563653

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



2014

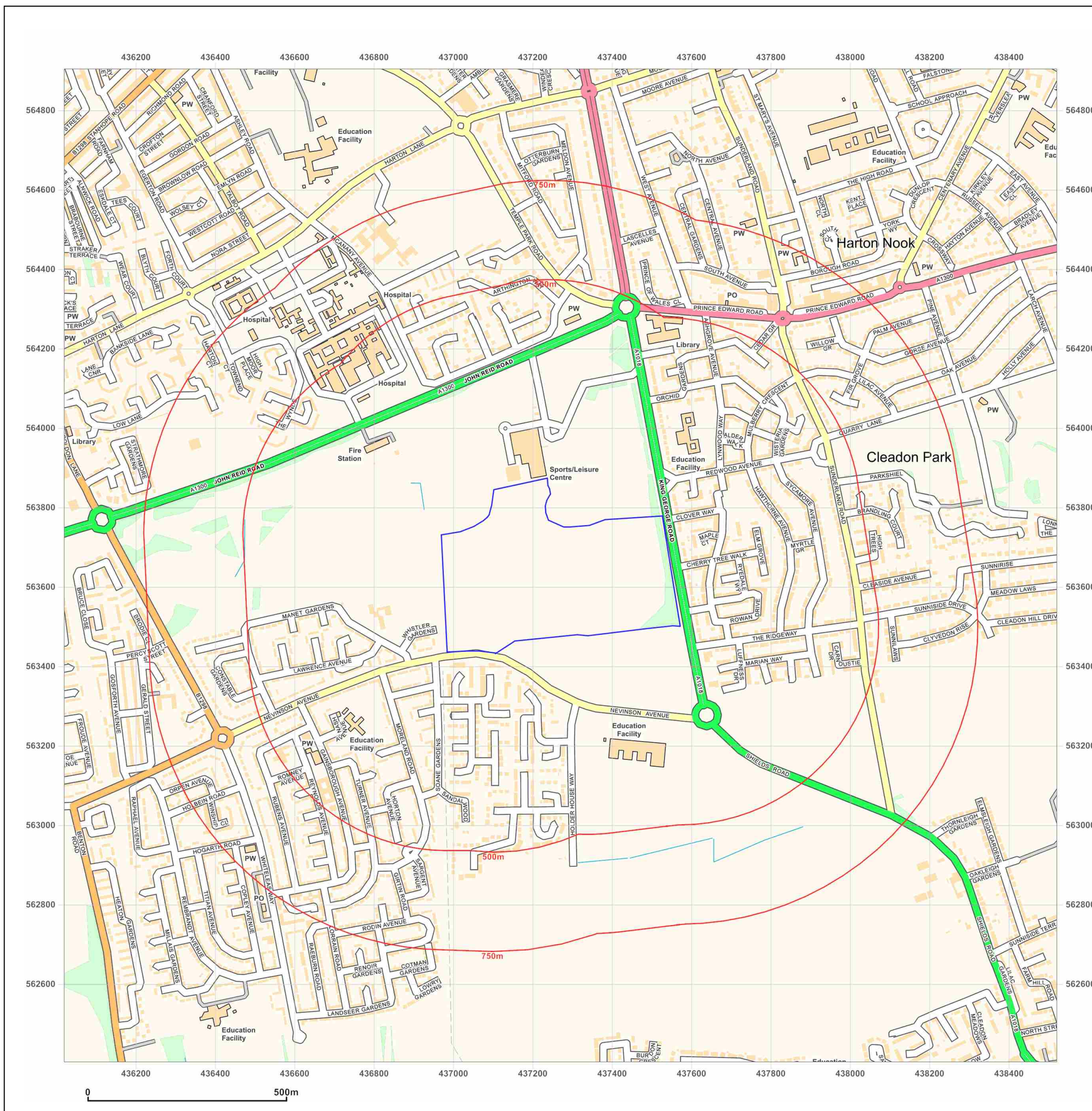


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APPENDIX C
GROUNDSURE REPORTS



James Christopher Consulting

JAMES CHRISTOPHER CONSULTING LTD,4,
SALTWELL BUSINESS PARK,
GATESHEAD, NE9 5BF

Groundsure
Reference:

GS-4130892

Your Reference: JCC17-051

Report Date 27 Jul 2017

Report Delivery Method: Email - pdf

Enviro Insight

Address: TEMPLE MEMORIAL PARK, SOUTH SHIELDS, NE34 8QN

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 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Address: TEMPLE MEMORIAL PARK, SOUTH SHIELDS, NE34 8QN

Date: 27 Jul 2017

Reference: GS-4130892

Client: James Christopher Consulting

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 07-Aug-2015
Grid Reference: 437307,563710
Site Size: 18.13ha

Report Reference: GS-4130892
Client Reference: JCC17-051

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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	3	2	0	6
1.2 Additional Information – Historical Tank Database	0	0	0	1
1.3 Additional Information – Historical Energy Features Database	0	0	8	18
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	4	0
1.6 Potentially Infilled Land	1	5	1	11

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

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	3	1	0	0	1	7
3.1.3 BGS/DoE Landfill Site Survey	0	0	1	0	0	2
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	2	4
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	3	0	2	11

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	1	9	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	1	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

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

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	2
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	2
6.6 Source Protection Zones (within 500m of the study site)	1	0	0	2	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	2	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	0	0	0	0	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	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?	No					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	No					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate					

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	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	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	3
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

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	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	1	0	0	0

Section 9: Natural Hazards	
9.1 What is the maximum risk of natural ground subsidence?	Low
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?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Very Low
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Very Low
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining	
10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

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

1. Historical Industrial Sites

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

2. Environmental Permits, Incidents and Registers

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

3. Landfills and Other Waste Sites

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

4. Current Land Uses

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

5. Geology

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

6. Hydrogeology and Hydrology

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

7. Flooding

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

8. Designated Environmentally Sensitive Sites

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

9. Natural Hazards

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

10. Mining

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

11. Contacts

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

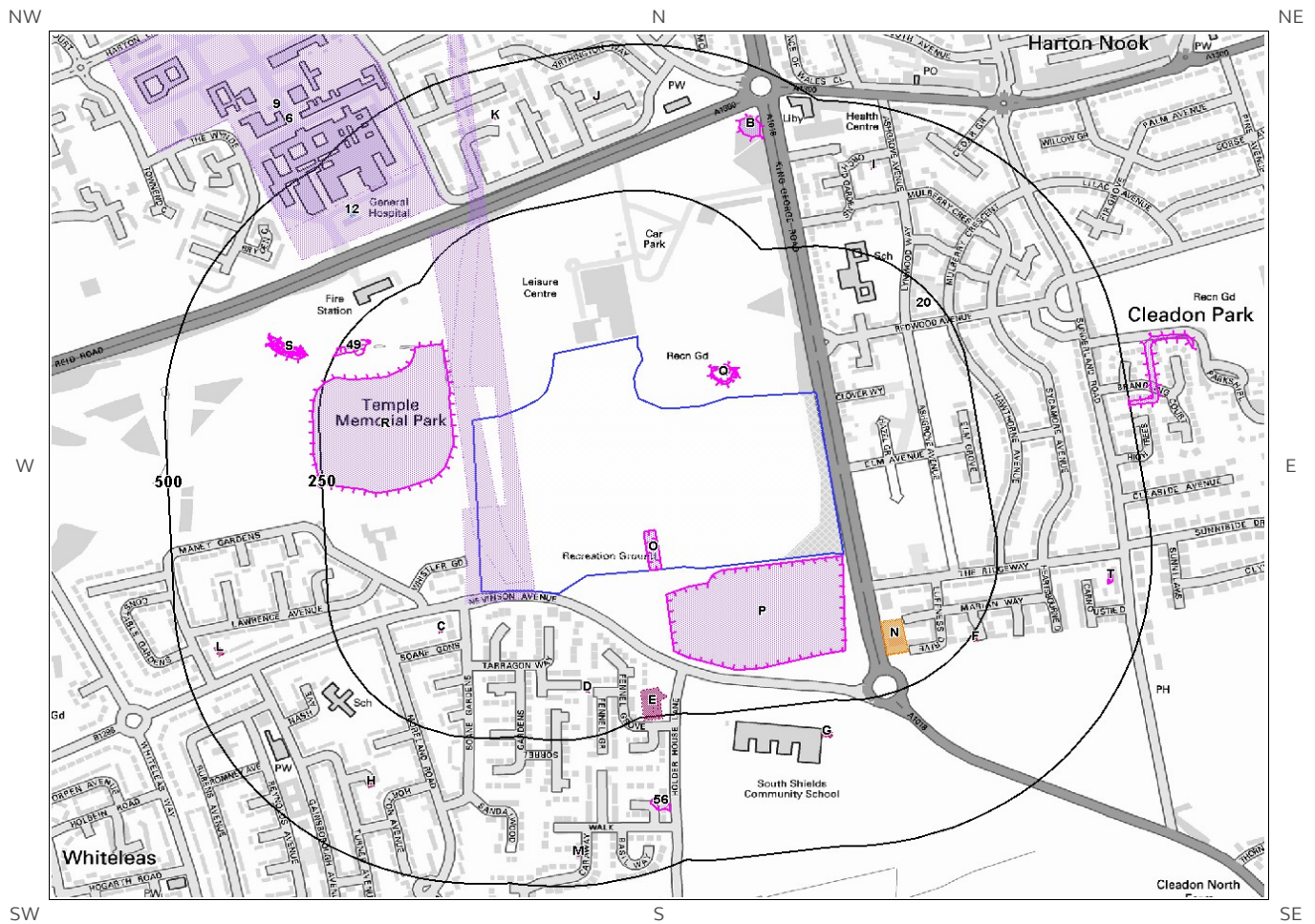
Note: Maps

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

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

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

1. Historical Land Use



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



Site Outline



Industrial Land Use



Potentially Infilled Land

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



Search Buffers (m)



Energy Features



Petrol Stations



Tanks



Garages

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: 11

ID	Distance [m]	Direction	Use	Date
1A	0	On Site	Rifle Range	1895
2A	0	On Site	Rifle Range	1895
3O	0	On Site	Unspecified Heap	1968
4P	2	S	Unspecified Heap	1974
5R	33	W	Refuse Heap	1968
6	313	NW	General Hospital	1985
7B	387	NE	Unspecified Heap	1974
8B	387	NE	Unspecified Heap	1985
9	391	NW	General Hospital	1974
10T	432	E	Old Limestone Quarry	1855
11U	498	E	Unspecified Ground Workings	1950

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: 1

ID	Distance (m)	Direction	Use	Date
12	400	NW	Unspecified Tank	1994

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: 26

ID	Distance (m)	Direction	Use	Date
----	--------------	-----------	-----	------

13C	88	SW	Electricity Substation	1983
14C	88	SW	Electricity Substation	1994
15D	168	S	Electricity Substation	1977
16D	168	S	Electricity Substation	1993
17E	201	S	Electricity Substation	1977
18E	201	S	Electricity Substation	1972
19E	221	S	Electricity Substation	1993
20	227	NE	Electricity Substation	1993
21F	255	SE	Electricity Substation	1975
22F	256	SE	Electricity Substation	1993
23G	302	S	Electricity Substation	1993
24G	304	S	Electricity Substation	1975
25H	370	SW	Electricity Substation	1994
26H	370	SW	Electricity Substation	1983
27I	392	N	Electricity Substation	1970
28I	392	N	Electricity Substation	1955
29I	393	N	Electricity Substation	1955
30I	393	N	Electricity Substation	1968
31J	408	N	Electricity Substation	1970
32J	408	N	Electricity Substation	1983
33K	412	N	Electricity Substation	1970
34K	412	N	Electricity Substation	1983
35L	432	W	Electricity Substation	1994
36L	432	W	Electricity Substation	1983
37M	444	S	Electricity Substation	1994
38M	444	S	Electricity Substation	1976

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: 4

ID	Distance (m)	Direction	Use	Date
----	--------------	-----------	-----	------

39N	130	SE	Garage	1975
40N	130	SE	Garage	1967
41N	130	SE	Garage	1968
42N	132	SE	Garage	1993

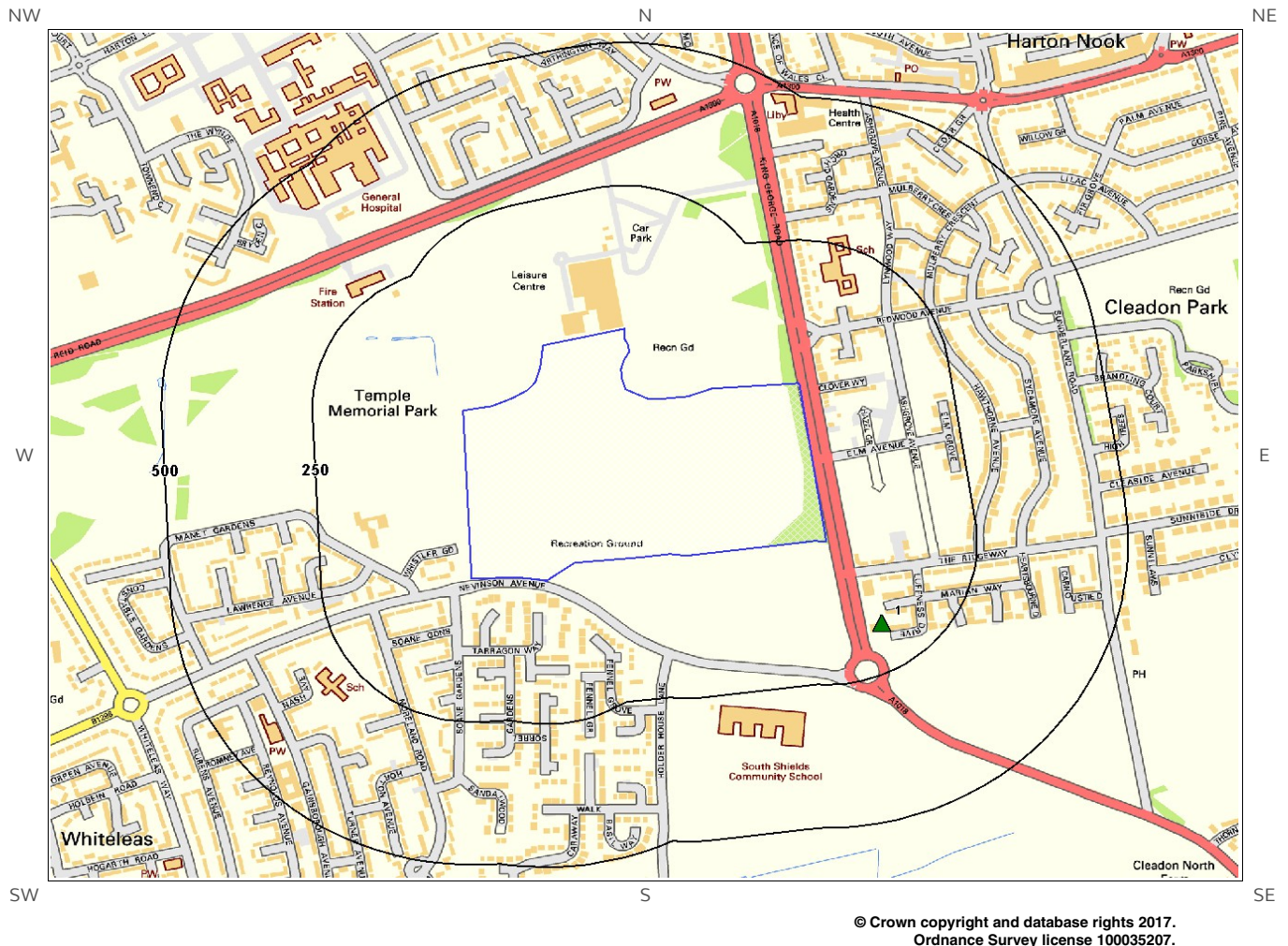
1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 18

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

ID	Distance(m)	Direction	Use	Date
43O	0	On Site	Unspecified Heap	1968
44P	2	S	Unspecified Heap	1974
45Q	23	N	Pond	1921
46Q	24	N	Pond	1950
47Q	27	N	Pond	1938
48R	33	W	Refuse Heap	1968
49	212	NW	Ponds	1938
50S	292	W	Pond	1855
51S	295	W	Pond	1895
52S	300	NW	Pond	1921
53S	301	NW	Pond	1950
54S	301	NW	Pond	1938
55S	301	W	Pond	1968
56	384	SE	Pond	1921
57B	387	NE	Unspecified Heap	1974
58B	387	NE	Unspecified Heap	1985
59T	432	E	Old Limestone Quarry	1855
60U	498	E	Unspecified Ground Workings	1950

2. Environmental Permits, Incidents and Registers Map



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

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/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:

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

1

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
1	171	SE	437662 563356	Address: Petrol Express, King George Road, South Shields, NE34 8AQ 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

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

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

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

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

0

Database searched and no data found.

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

0

Database searched and no data found.

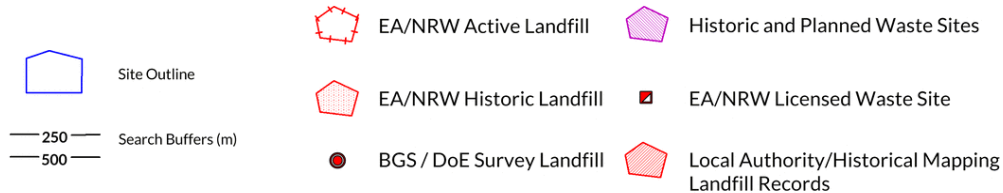
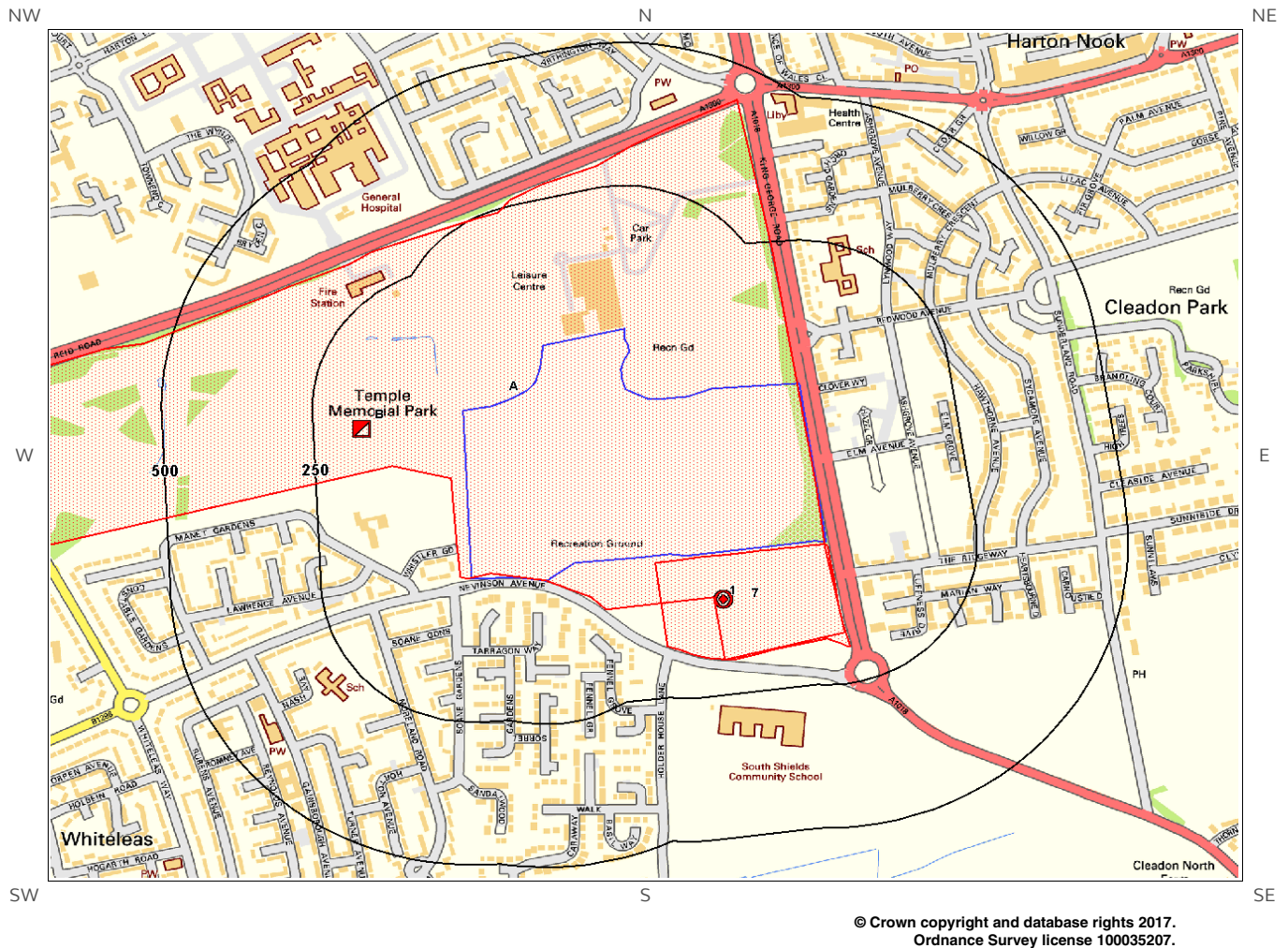
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

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



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:

12

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
4A	0	On Site	437000 563700	Site Address: Temple Park No.2, Temple Park, South Shield, Tyne and Wear Waste Licence: Yes Site Reference: TW 105 ST, TW 124 ST, ST 041, ST 037 Waste Type: Inert, Industrial, Commercial Environmental Permitting Regulations (Waste) Reference: YO1/L/BOR016 Licence Issue: 23-Feb-1983 Licence Surrendered: 31-Mar-1994 Licence Holder Address: Town Hall, South Shields, Tyne and Wear Operator: - Licence Holder: Borough Of South Tyneside First Recorded: 01-Jan-1950 Last Recorded: -
5A	0	On Site	437000 563700	Site Address: Temple Park No.3, Nevinston Avenue, Whiteleas Waste Licence: - Site Reference: ST 019 Waste Type: Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
6A	0	On Site	437000 563700	Site Address: Temple Memorial Park No.1, John Reid Road, South Shield, Tyne and Wear Waste Licence: Yes Site Reference: TW 111 ST ST 039, TW 032 ST, ST 006 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: YO1/L/BOR004 Licence Issue: 05-Oct-1977 Licence Surrendered: 31-Mar-1994 Licence Holder Address: Central Library Buildings, Catherine Street, South Shields, Tyne and Wear Operator: - Licence Holder: Borough Of South Tyneside First Recorded: 01-Jan-1957 Last Recorded: 01-Jan-1994

ID	Distance (m)	Direction	NGR	Details	
7	5	S	437400 563300	Site Address: Temple Memorial Park, King George Road, South Shields, Tyne and Wear Waste Licence: - Site Reference: - Waste Type: Inert, Industrial, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: South Shields County Borough Cleansing Department Licence Holder: - First Recorded: 31-Aug-1969 Last Recorded: 31-Mar-1971
Not shown	879	E	438500 563900	Site Address: Cleadon Park Quarry, Cleadon Park, South Tyneside Waste Licence: - Site Reference: ST 001 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1047	SW	436500 562200	Site Address: Tiledshed Farm, Tiledshed Lane, Boldon Waste Licence: - Site Reference: ST 017 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1084	S	436900 562200	Site Address: Tiledshed Piggery, Tiledshed Lane, Boldon Waste Licence: - Site Reference: ST 018 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Boldon Urban District Council Licence Holder: - First Recorded: 31-Dec-1953 Last Recorded: -
Not shown	1107	SW	435800 562600	Site Address: Newton Garths, Benton Road, Whiteleas Waste Licence: - Site Reference: TWR 04, ST 034, TW R4 Waste Type: Inert, Industrial, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: South Shields County Borough Cleansing Department Licence Holder: - First Recorded: 31-Mar-1971 Last Recorded: 31-Jul-1981
Not shown	1232	SW	436200 562200	Site Address: Boldon Lane, Tiledsheds Lane / Boldon Lane, South Shield, Tyne and Wear Waste Licence: Yes Site Reference: TWR 17, TW 047 ST, ST 012, ST 009 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: YO1/L/SOU002	Licence Issue: 23-Jan-1978 Licence Surrendered: 21-Nov-1985 Licence Holder Address: Town Hall, South Shields, Tyne and Wear Operator: - Licence Holder: South Tyneside Metropolitan Borough Council First Recorded: 14-Apr-1978 Last Recorded: 11-Jul-1979
Not shown	1283	SW	436000 562300	Site Address: Newton Garths Extension, Boldon Lane, Boldon Waste Licence: - Site Reference: TWR 18, ST 007 Waste Type: Inert, Industrial, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 01-Aug-1981 Last Recorded: 20-Sep-1982
Not shown	1413	NW	436000 564900	Site Address: Olive Street, Olive Street, West Harton Waste Licence: - Site Reference: ST 033 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -

ID	Distance (m)	Direction	NGR	Details
Not shown	1483	SW	435500 562700	Site Address: Newton Garth B, Off Masefield Drive, Whiteleas Waste Licence: - Site Reference: ST 021, ST 9 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -

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

3

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

ID	Distance (m)	Direction	NGR	Details
1	84	S	437400.0 563400.0	Address: Temple Mermaid Bank, King George Rd, S Shields, T&W BGS Number: 303.0 Risk: No risk to aquifer Waste Type: N/A
Not shown	1250	S	436800.0 562200.0	Address: Tiledsheds Lane, East Boldon, T&W BGS Number: 1225.0 Risk: No risk to aquifer Waste Type: N/A
Not shown	1449	SW	435800.0 562600.0	Address: Newton Garth, Benton Road, S Shields, T&W BGS Number: 304.0 Risk: No risk to aquifer Waste Type: N/A

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

6

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

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	690	W	436155 563759	Refuse Tip	1958 mapping	Polygon
Not shown	699	W	436078 563861	Refuse Tip	1958 mapping	Polygon
Not shown	1102	S	436803 562278	Refuse Tip	1973 mapping	Polygon
Not shown	1217	S	437008 562198	Refuse Tip	1968 mapping	Polygon
Not shown	1222	S	437011 562195	Refuse Tip	1967 mapping	Polygon
Not shown	1270	SW	436065 562455	Refuse Tip	1973 mapping	Polygon

3.2 Other Waste Sites

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

0

Database searched and no data found.

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

16

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

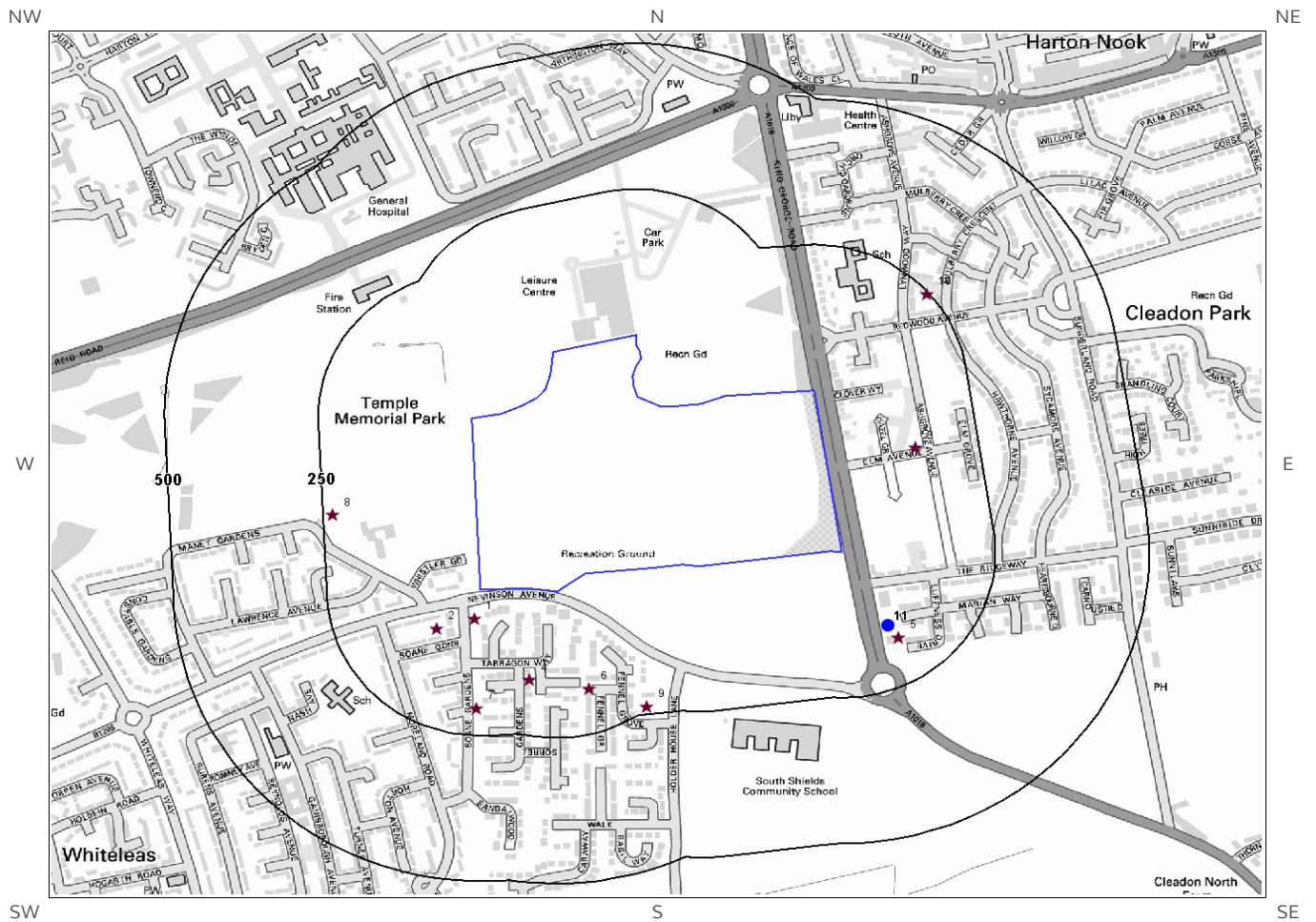
ID	Distance (m)	Direction	NGR	Details
16B	170	W	436800 563700	Site Address: Land On Temple Memorial Park, Adj To John Reid Road, South Shields, Tyne & Wear Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: BOR004 EPR reference: - Operator: Borough Of South Tyneside Waste Management licence No: 0 Annual Tonnage: 0.0 Issue Date: 05/10/1977 Effective Date: - Modified: - Surrendered Date: 31/10/1978 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Temple Memorial Park Correspondence Address: Central Library Buildings, Catherine Street, South Shields, Tyne & Wear, NE33 2PE
17B	170	W	436800 563700	Site Address: Land On Temple Memorial Park, Adj To John Reid Road, South Shields, Tyne & Wear Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BOR004 EPR reference: - Operator: Borough Of South Tyneside Waste Management licence No: 0 Annual Tonnage: 0.0 Issue Date: 05/10/1977 Effective Date: - Modified: - Surrendered Date: 31/10/1978 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Temple Memorial Park Correspondence Address: Central Library Buildings, Catherine Street, South Shields, Tyne & Wear, NE33 2PE
18B	170	W	436800 563700	Site Address: Land On Temple Memorial Park, Adj To John Reid Road, South Shields, Tyne & Wear Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BOR004 EPR reference: EA/EPR/YP3898ES/S002 Operator: Borough Of South Tyneside Waste Management licence No: 64444 Annual Tonnage: 250000.0 Issue Date: 05/10/1977 Effective Date: - Modified: - Surrendered Date: 31/10/1978 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Temple Memorial Park Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details	
Not shown	685	NW	436700 564400	Site Address: ., South Tyneside District Hospital, Harton Lane, South Shields, Tyne & Wear, NE34 OPL Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SOU002 EPR reference: EA/EPR/DP3096ZX/S003 Operator: South Tyneside Health Care Trust Waste Management licence No: 67001 Annual Tonnage: 25000.0	Issue Date: 30/09/1992 Effective Date: - Modified: 30/09/1992 Surrendered Date: 07/09/1999 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: South Tyneside District Hospital Correspondence Address: -
Not shown	738	S	437200 562700	Site Address: Plot A, Cleadon Lane Ind Est, East Boldon, Tyne & Wear Type: Transfer Station taking Non-Biodegradable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MAC001 EPR reference: EA/EPR/UP3393NF/S002 Operator: Mackings Gary Alan Waste Management licence No: 67607 Annual Tonnage: 6119.0	Issue Date: 03/06/1996 Effective Date: - Modified: - Surrendered Date: 19/09/2001 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Mac Skip Hire Correspondence Address: -
Not shown	1075	SW	436000 563000	Site Address: East Boldon, Tyne & Wear Type: Landfill taking Non-Biodegradable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRO002 EPR reference: EA/EPR/BP3794EW/S002 Operator: Bromley F S Waste Management licence No: 64489 Annual Tonnage: 150000.0	Issue Date: 21/10/1982 Effective Date: - Modified: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Boldon Lane & New Road Landfill Correspondence Address: -
Not shown	1075	SW	436000 563000	Site Address: East Boldon, Tyne & Wear Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: BRO002 EPR reference: - Operator: Bromley F S Waste Management licence No: 0 Annual Tonnage: 0.0	Issue Date: 21/10/1982 Effective Date: - Modified: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Boldon Lane & New Road Landfill Correspondence Address: 34, Woodlands Road, Cleadon Village, Tyne & Wear, NE
Not shown	1075	SW	436000 563000	Site Address: East Boldon, Tyne & Wear Type: Landfill taking Non-Biodegradable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRO002 EPR reference: - Operator: Bromley F S Waste Management licence No: 0 Annual Tonnage: 0.0	Issue Date: 21/10/1982 Effective Date: - Modified: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Boldon Lane & New Road Landfill Correspondence Address: 34, Woodlands Road, Cleadon Village, Tyne & Wear, NE

ID	Distance (m)	Direction	NGR	Details
Not shown	1412	SW	436300 562200	Site Address: Tiledsheds Lane / Boldon Lane, South Shields, Tyne & Wear, NE33 2RL Type: Landfill taking Non-Biodegradable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SOU002 EPR reference: EA/EPR/JP3498EL/S002 Operator: South Tyneside Metropolitan Borough Council Waste Management licence No: 64455 Annual Tonnage: 150000.0 Issue Date: 04/01/1979 Effective Date: - Modified: - Surrendered Date: 21/11/1985 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Tiledsheds Lane / Boldon Lane Reclamation Area Correspondence Address: -
Not shown	1412	SW	436300 562200	Site Address: Tiledsheds Lane / Boldon Lane, South Shields, Tyne & Wear, NE33 2RL Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: SOU002 EPR reference: - Operator: South Tyneside Metropolitan Borough Council Waste Management licence No: 0 Annual Tonnage: 0.0 Issue Date: 04/01/1979 Effective Date: - Modified: - Surrendered Date: 21/11/1985 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Tiledsheds Lane / Boldon Lane Reclamation Area Correspondence Address: Town Hall, South Shields, Tyne & Wear, NE33 2RL
Not shown	1412	SW	436300 562200	Site Address: Tiledsheds Lane / Boldon Lane, South Shields, Tyne & Wear, NE33 2RL Type: Landfill taking Non-Biodegradable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SOU002 EPR reference: - Operator: South Tyneside Metropolitan Borough Council Waste Management licence No: 0 Annual Tonnage: 0.0 Issue Date: 04/01/1979 Effective Date: - Modified: - Surrendered Date: 21/11/1985 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Tiledsheds Lane / Boldon Lane Reclamation Area Correspondence Address: Town Hall, South Shields, Tyne & Wear, NE33 2RL
Not shown	1482	NW	435600 564300	Site Address: Throckley Way, Middlefields Ind Est, South Shields, Tyne & Wear, NE34 0NU Type: Household Waste Amenity Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: DUR039 EPR reference: - Operator: Durham County Waste Management Company Ltd Waste Management licence No: 64149 Annual Tonnage: 0.0 Issue Date: 21/07/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Middlefields Recycling Village Correspondence Address: Prospect House, Aykley Heads Business Centre, Aykley Heads, Durham, County Durham, DH1 5TS
Not shown	1482	NW	435600 564300	Site Address: Land/premises At, Throckley Way, Middlefields Ind Est, South Shields, Tyne & Wear, NE34 0NU Type: Household Waste Amenity Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TYN012 EPR reference: EA/EPR/DB3232RK/T001 Operator: Sita U K Ltd Waste Management licence No: 64149 Annual Tonnage: 24999.0 Issue Date: 21/07/2005 Effective Date: 25/01/2012 Modified: - Surrendered Date: 0 Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Middlefields Recycling Village Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details	
Not shown	1482	NW	435600 564300	Site Address: Land/premises At, Throckley Way, Middlefields Ind Est, South Shields, Tyne & Wear, NE34 0NU Type: Household Waste Amenity Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TYN012 EPR reference: EA/EPR/DB3232RK/V002 Operator: Suez Recycling And Recovery U K Ltd Waste Management licence No: 64149 Annual Tonnage: 24999.0	Issue Date: 21/07/2005 Effective Date: 25/01/2012 Modified: 30/06/2016 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Middlefields Recycling Village Correspondence Address: -
Not shown	1482	NW	435600 564300	Site Address: Land/premises At, Throckley Way, Middlefields Ind Est, South Shields, Tyne & Wear, NE34 0NU Type: Household Waste Amenity Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: DUR039 EPR reference: EA/EPR/XP3494ZX/A001 Operator: Durham County Waste Management Co Ltd Waste Management licence No: 64149 Annual Tonnage: 24999.0	Issue Date: 21/07/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Middlefields Recycling Village Correspondence Address: -
Not shown	1485	S	436690 561980	Site Address: Tile Shed Farm, Tiledshed Lane, East Boldon, Tyne & Wear, NE36 0BP Type: Incinerator Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PET001 EPR reference: EA/EPR/KP3994ZL/A001 Operator: Pet Cremation Services (North East) Ltd Waste Management licence No: 64174 Annual Tonnage: 100.0	Issue Date: 29/09/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Tiledshed Farm Pet Crematorium Correspondence Address: -

4. Current Land Use Map



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4. Current Land Uses

4.1 Current Industrial Data

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

10

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	49	S	Pylon	436972 563388	Pylon, NE34	Electrical Features	Infrastructure and Facilities
2	98	SW	Electricity Sub Station	436910 563371	Electricity Sub Station, NE34	Electrical Features	Infrastructure and Facilities
3	147	E	Electricity Sub Station	437690 563681	Electricity Sub Station, NE34	Electrical Features	Infrastructure and Facilities
4	155	S	C Ellenden	437061 563282	C Ellenden, 7, Sorrel Gardens, South Shields, NE34 8TW	Signs	Industrial Products
5	171	SE	Ridgeway Service Station	437662 563356	Ridgeway Service Station, King George Road, Harton, South Shields, Tyne & Wear, NE34 8AQ	Petrol and Fuel Stations	Road and Rail
6	173	S	Electricity Sub Station	437159 563268	Electricity Sub Station, NE34	Electrical Features	Infrastructure and Facilities
7	202	S	Pylon	436976 563234	Pylon, NE34	Electrical Features	Infrastructure and Facilities
8	235	W	Electricity Sub Station	436741 563566	Electricity Sub Station, NE34	Electrical Features	Infrastructure and Facilities
9	236	S	Electricity Sub Station	437253 563237	Electricity Sub Station, NE34	Electrical Features	Infrastructure and Facilities
10	247	NE	Electricity Sub Station	437708 563945	Electricity Sub Station, NE34	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

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

1

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
11	146	SE	437645 563376	Jet	Ridgeway Service Station, King George Road, King George Road, Harton, South Shields, Tyne And Wear, NE34 8AQ	No	Open

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

5.2 Superficial Ground and Drift Geology

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

Lex Code	Description	Rock Type
PELC-C	PELAW CLAY MEMBER	CLAY

5.3 Bedrock and Solid Geology

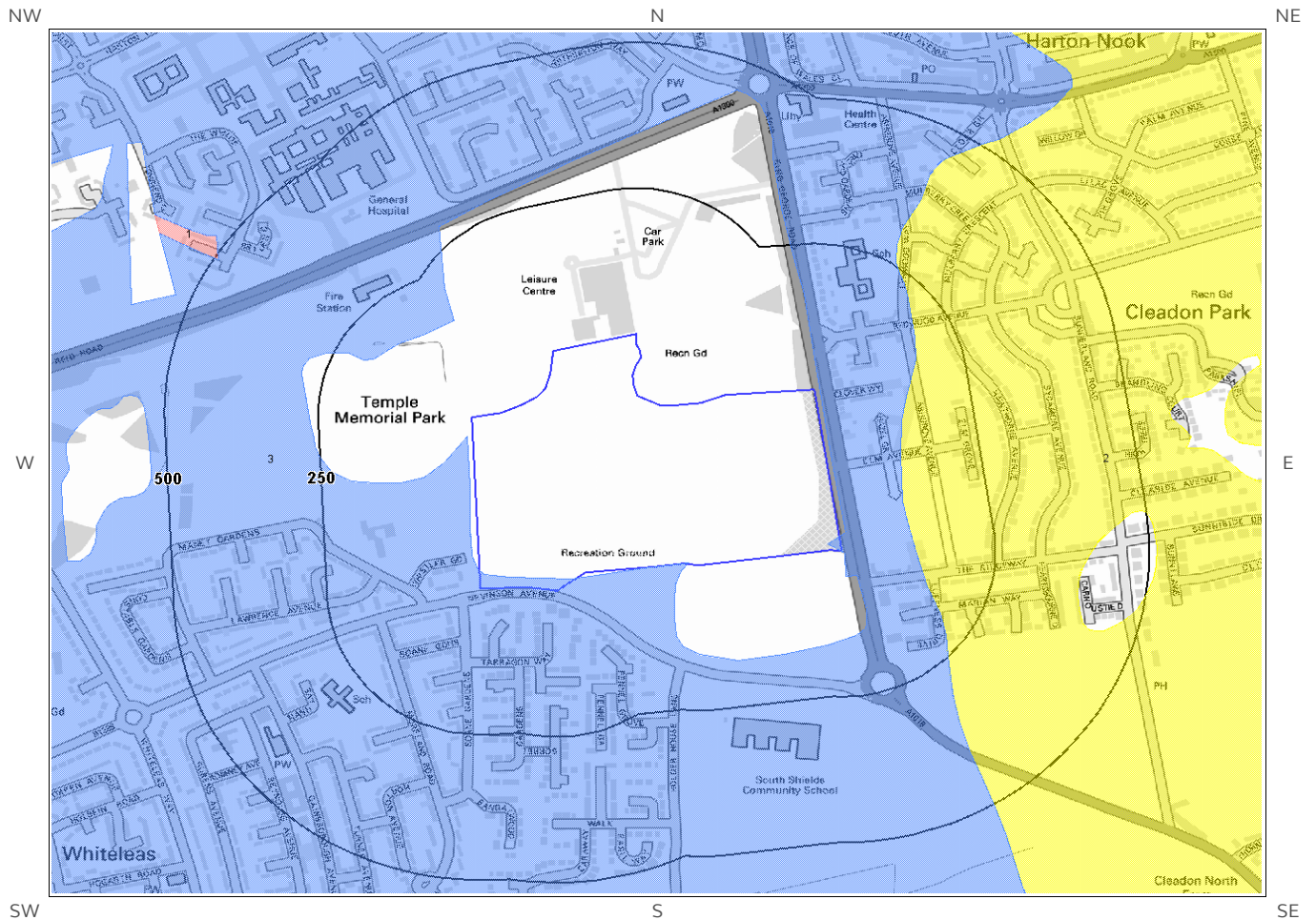
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
YWS-SDST	YELLOW SANDS FORMATION	SANDSTONE
RML-DOLO	RAISBY FORMATION	DOLOSTONE
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE

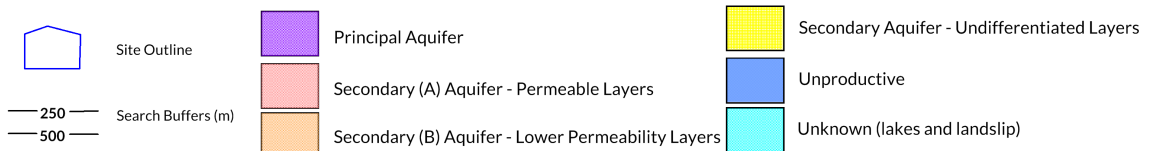
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

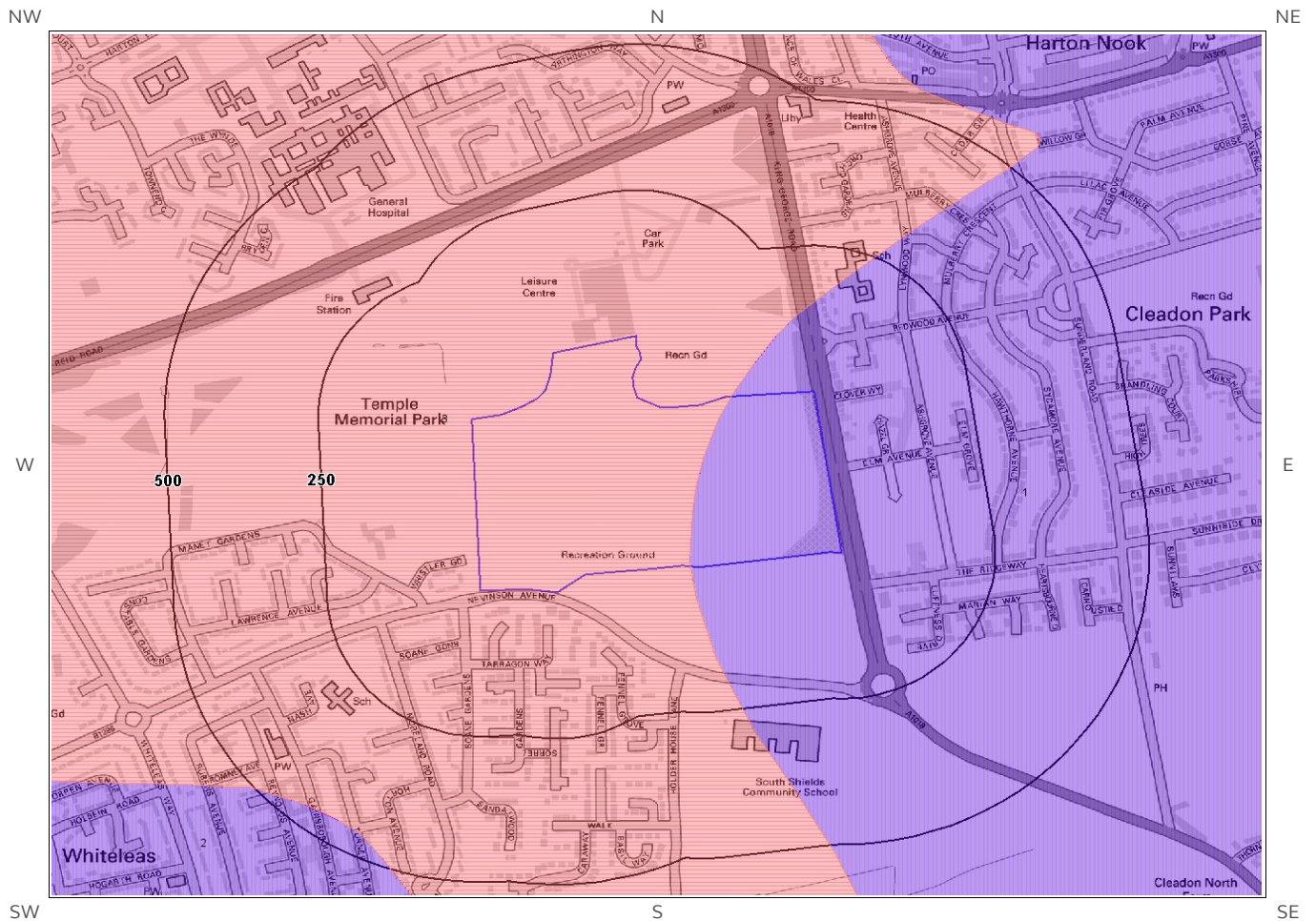
6a. Aquifer Within Superficial Geology



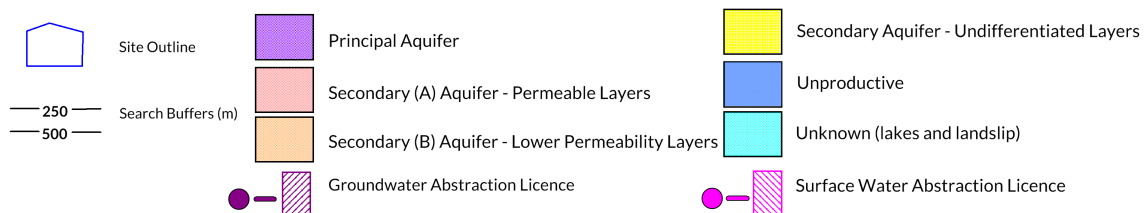
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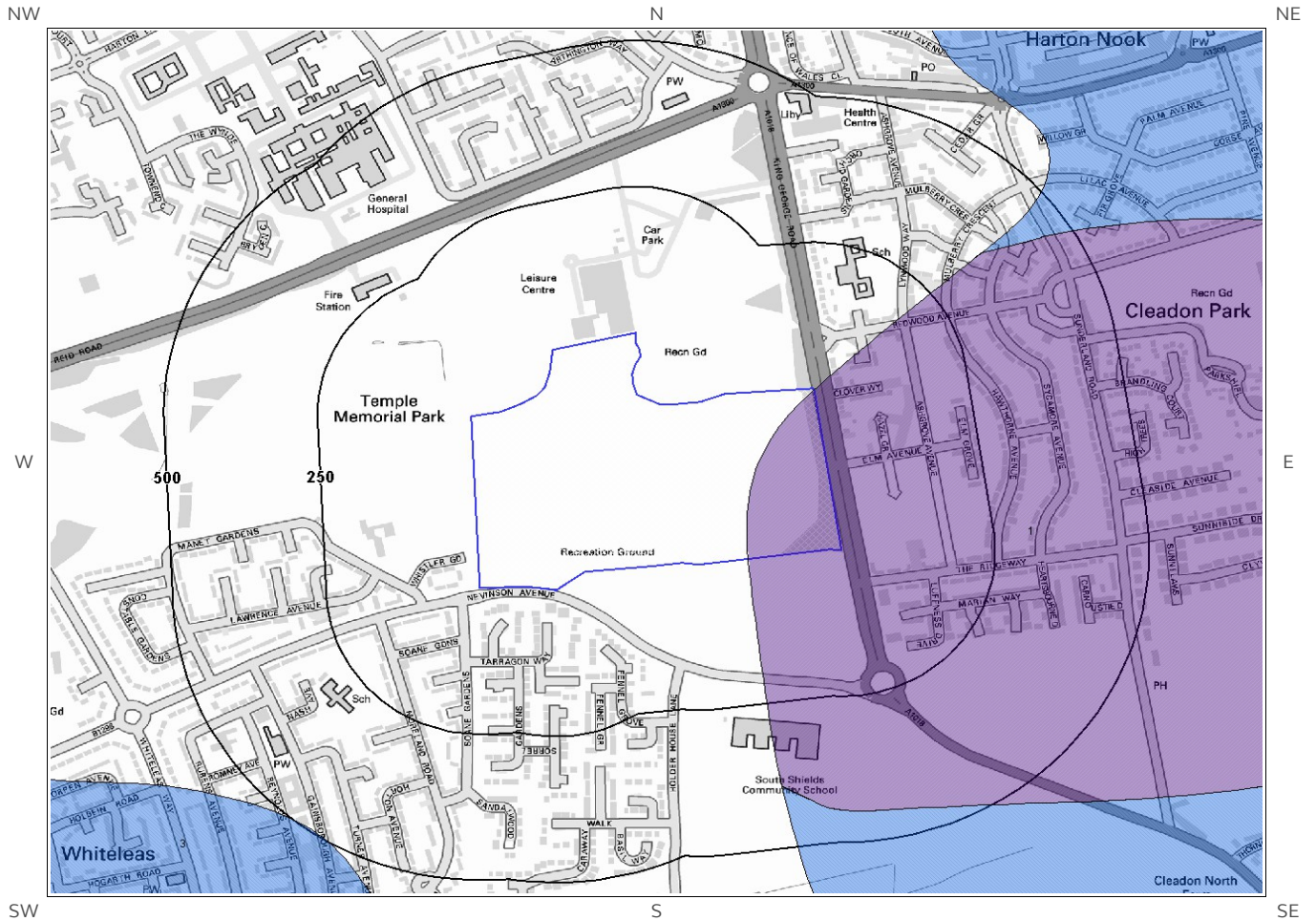
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



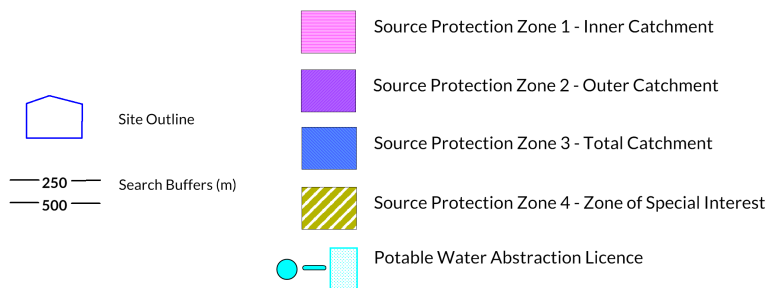
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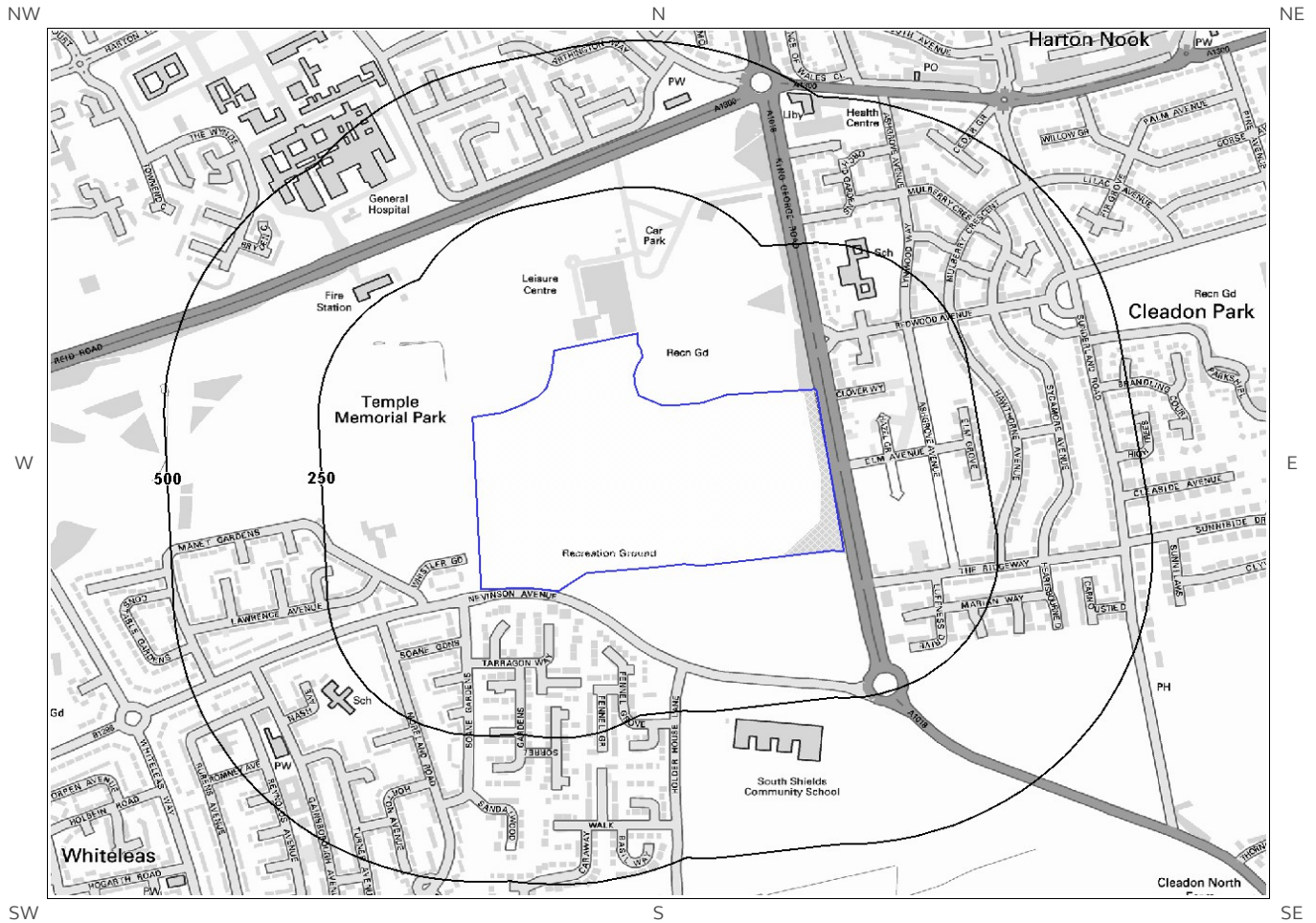
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



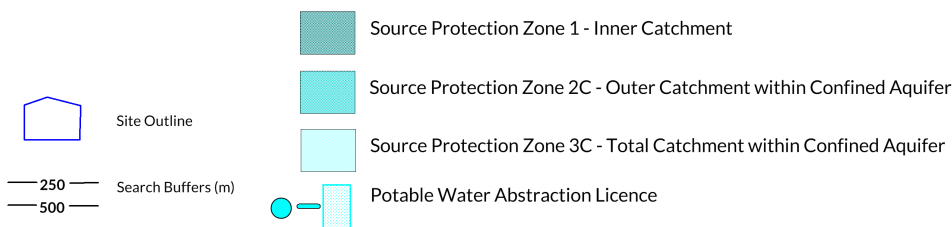
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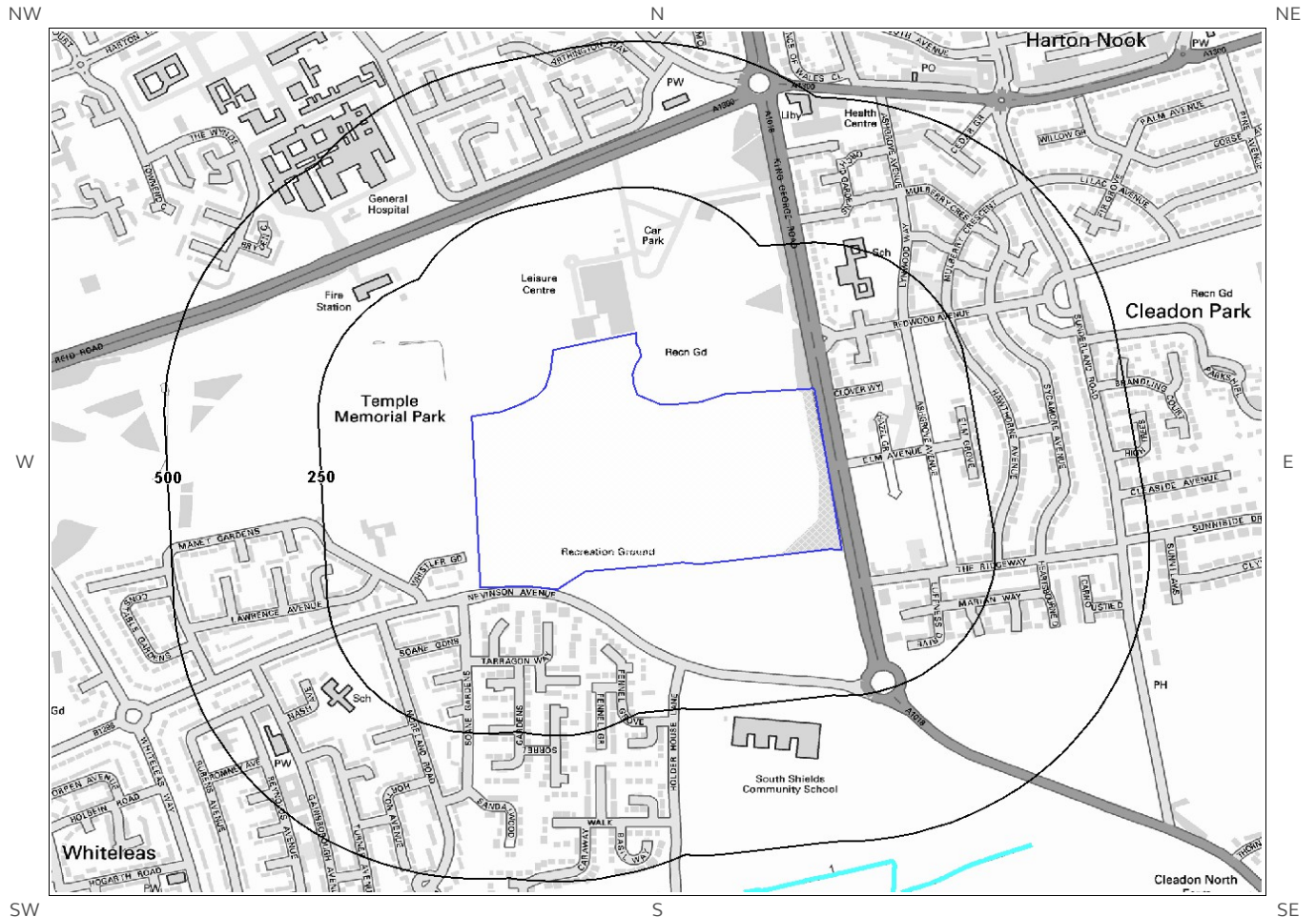
6d. Hydrogeology – Source Protection Zones within confined aquifer



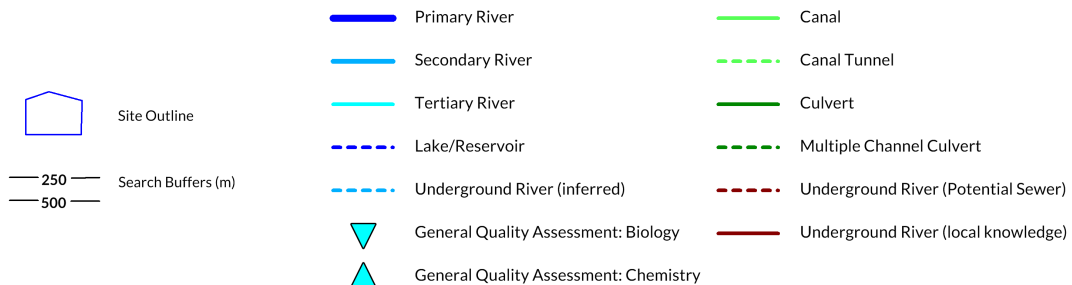
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6e. Hydrology – Detailed River Network and River Quality



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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
3	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	111	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
1	493	NW	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
3	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
2	457	SW	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
Not shown	1152	E	438720 563580	Status: Historical Licence No: 1/23/05/001 Details: Potable Water Supply - Direct Direct Source: Groundwaters Point: Cleadon (magnesian Limestone) Data Type: Point Name: NORTHUMBRIAN WATER Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 014/23/05 Original Start Date: 7/3/1966 Expiry Date: - Issue No: 100 Version Start Date: 8/4/1968 Version End Date:
Not shown	1152	E	438720 563580	Status: Active Licence No: 1/23/05/001 Details: Potable Water Supply - Direct Direct Source: Groundwaters Point: Borehole - Magnesian Limestone - Cleadon Data Type: Point Name: NORTHUMBRIAN WATER Annual Volume (m³): 1241058 Max Daily Volume (m³): 5773.55 Original Application No: 014/23/05 Original Start Date: 7/3/1966 Expiry Date: - Issue No: 100 Version Start Date: 8/4/1968 Version End Date:

6.4 Surface Water Abstraction Licences

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

No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

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

Yes

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

ID	Distance (m)	Direction	NGR	Details
Not shown	1152	E	438720 563580	Status: Historical Licence No: 1/23/05/001 Details: Potable Water Supply - Direct Direct Source: Groundwaters Point: Cleadon (magnesian Limestone) Data Type: Point Name: NORTHUMBRIAN WATER Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 014/23/05 Original Start Date: 7/3/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1152	E	438720 563580	Status: Active Licence No: 1/23/05/001 Details: Potable Water Supply - Direct Direct Source: Groundwaters Point: Borehole - Magnesian Limestone - Cleadon Data Type: Point Name: NORTHUMBRIAN WATER	Annual Volume (m ³): 1241058 Max Daily Volume (m ³): 5773.55 Original Application No: 014/23/05 Original Start Date: 7/3/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (6c):

ID	Distance (m)	Direction	Zone	Description
1	0	On Site	2	Outer catchment
2	346	NE	3	Total catchment
3	496	SW	3	Total catchment

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	Minor 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.
279	S	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
477	SW	Major Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? No

6.9.1 Biological Quality:

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? No

Database searched and no data found.

6.11 Surface Water Features

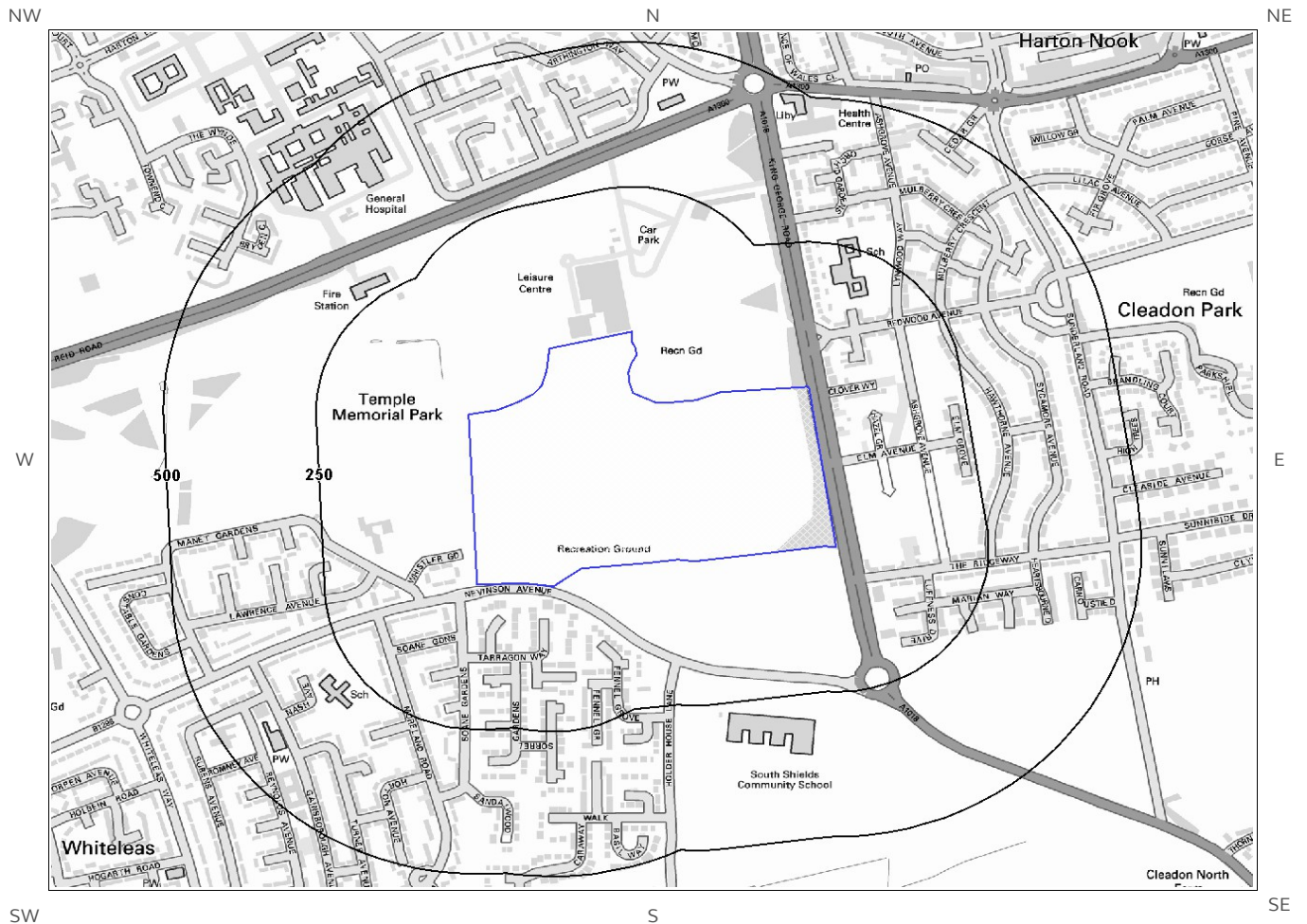
Are there any surface water features within 250m of the study site?

Yes

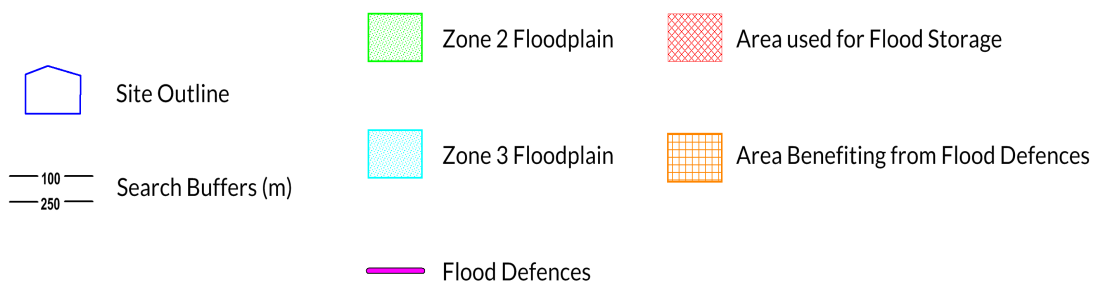
The following surface water records are not represented on mapping:

Distance (m)	Direction
76	NW

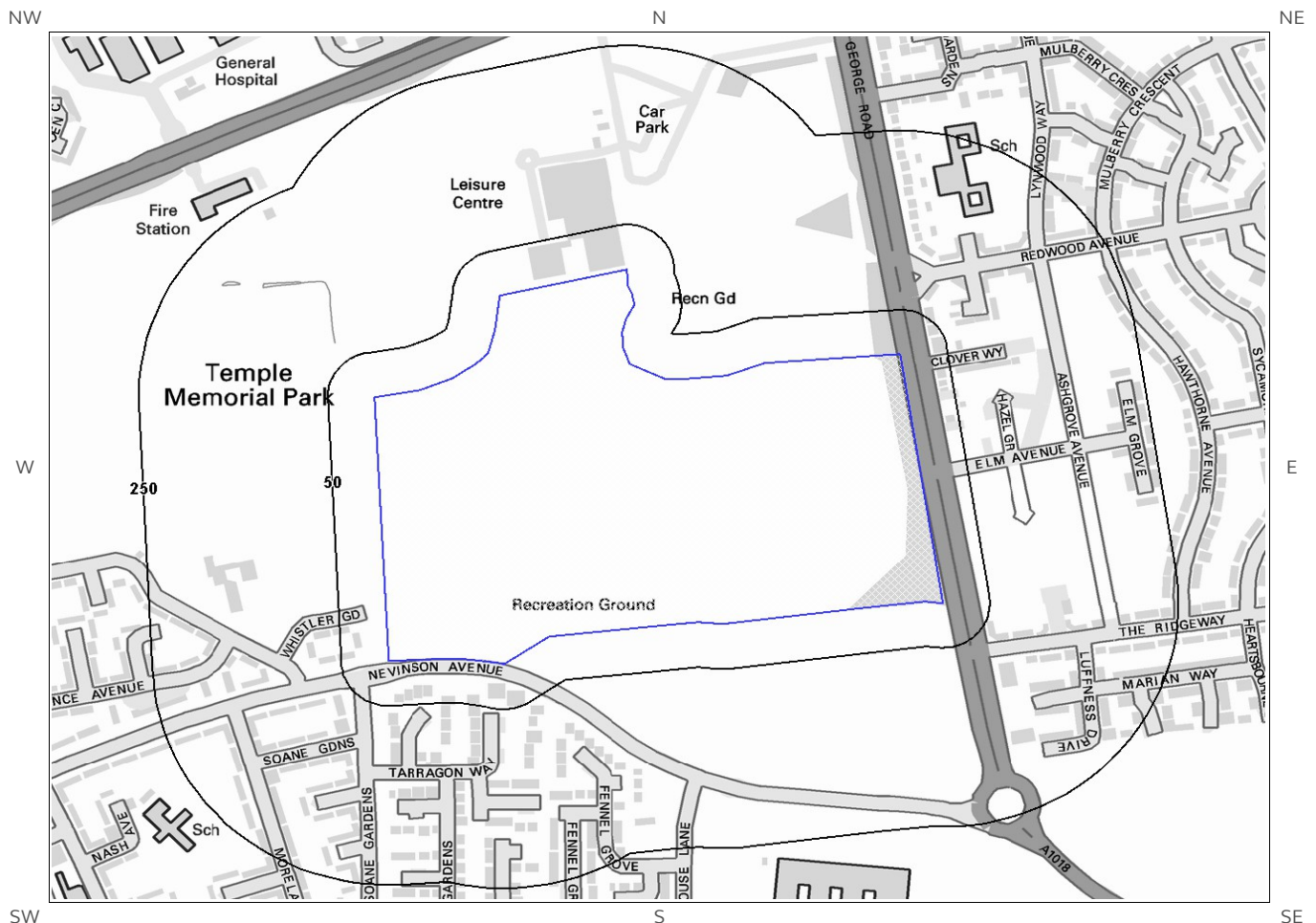
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



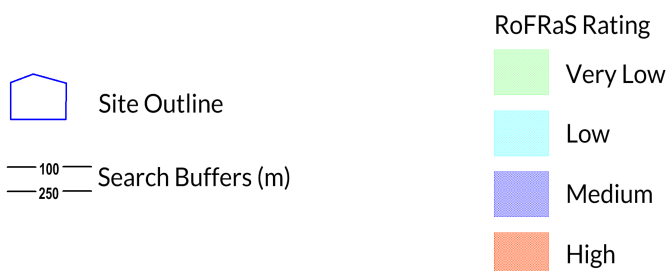
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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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? No

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:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? No

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.

Database searched and no data found.

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

What is the highest risk of flooding onsite? Very Low

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 Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

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

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

7.7 Groundwater Flooding Susceptibility Areas

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

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Clearwater Flooding

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

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

Potential at Surface

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

7.8 Groundwater Flooding Confidence Areas

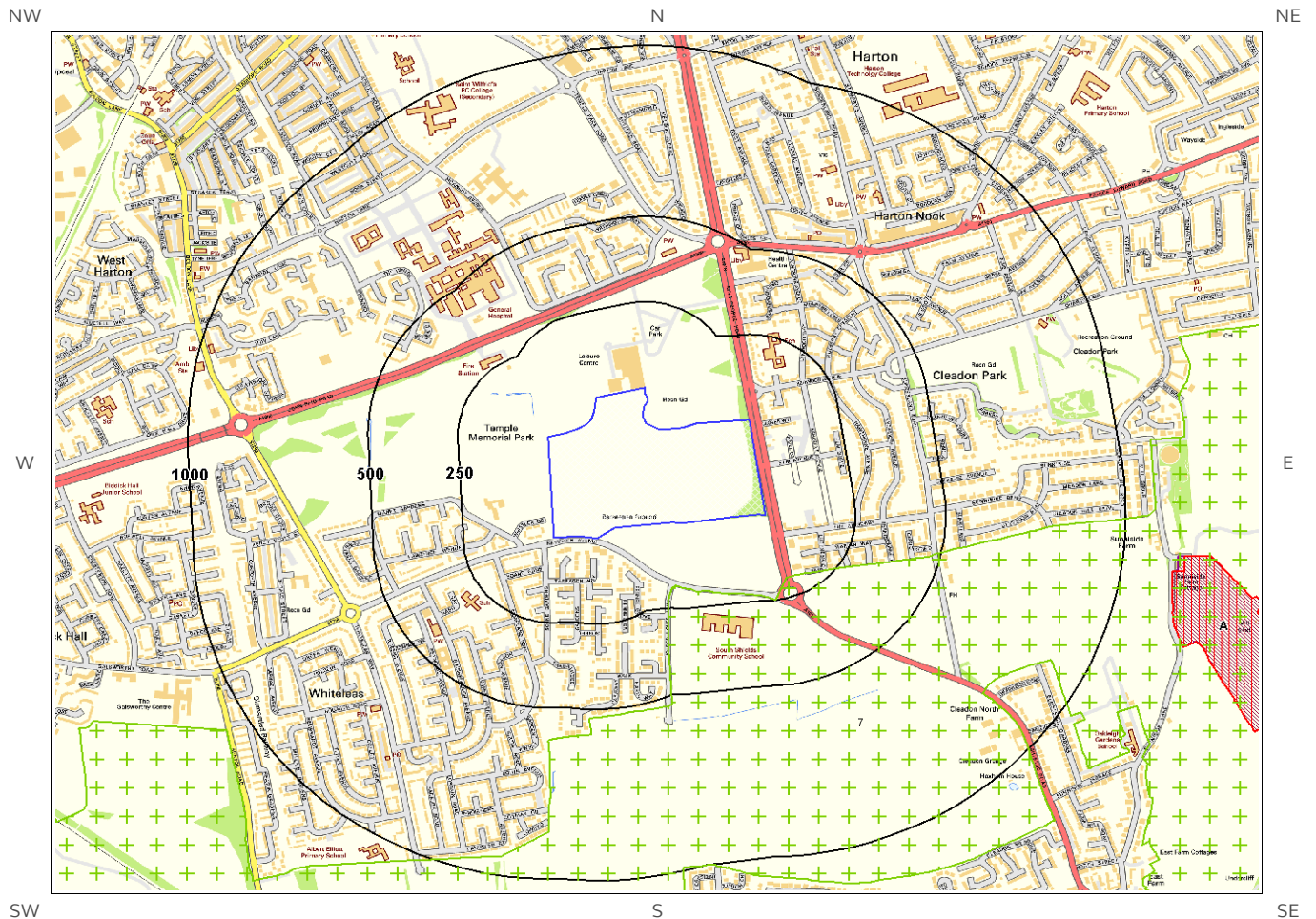
What is the British Geological Survey confidence rating in this result?

Moderate

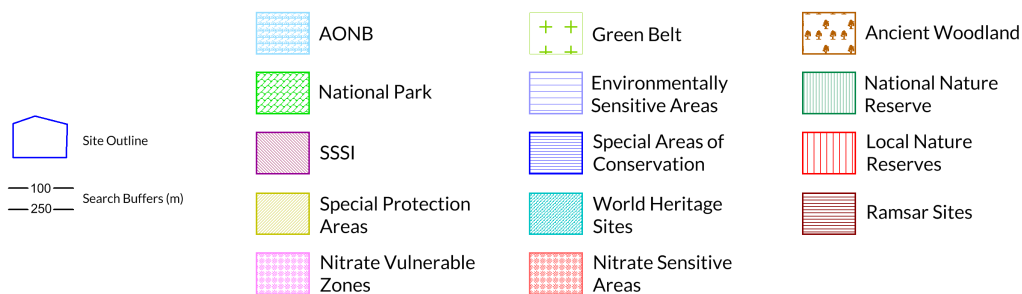
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

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

8. Designated Environmentally Sensitive Sites Map



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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
1A	1140	E	Cleadon Hill	Natural England
Not shown	1627	SW	West Farm Meadow, Boldon	Natural England
Not shown	1802	S	Boldon Pastures	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:

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

3

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
4A	1140	E	Cleadon Hills	Natural England
Not shown	1301	S	Tilesheds	Natural England
Not shown	1460	E	Marsden Old Quarry	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:

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

1

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
7	184	S	North East Greenbelt	South Tyneside District (B)

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? Very Low

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

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

9.1.3 Soluble Rocks

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

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

Hazard
Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

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

9.1.4 Compressible Ground

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

Very Low

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

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

9.1.5 Collapsible Rocks

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

Very Low

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

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

9.1.6 Running Sand

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

Very Low

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

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

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level.

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

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

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

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

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

10.2 Non-Coal Mining

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

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:

Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency

National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 03708 506 506

Web: www.environment-agency.gov.uk

Email: 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

Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority

Authority: South Tyneside Council
Phone: 0191 427 7000

Web: <http://www.southtyneside.info/>

Address: Town Hall and Civic Offices, Westoe Road, South Shields,

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>

James Christopher Consulting

JAMES CHRISTOPHER CONSULTING LTD,4,
SALTWELL BUSINESS PARK,
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Groundsure
Reference:

GS-4130893

Your Reference: JCC17-051

Report Date 27 Jul 2017

Report Delivery Method: Email - pdf

Geo Insight

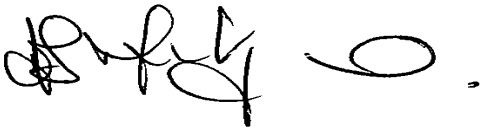
Address: TEMPLE MEMORIAL PARK, SOUTH SHIELDS, NE34 8QN

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 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Address: TEMPLE MEMORIAL PARK, SOUTH SHIELDS, NE34 8QN
Date: 27 Jul 2017
Reference: GS-4130893
Client: James Christopher Consulting



Aerial Photograph Capture date: 07-Aug-2015
Grid Reference: 437307,563710
Site Size: 18.13ha

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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?*	Yes
	1.2.2 Are there any records of landslide 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 landslide 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?

Yes

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 in a Radon Affected Area, as between 1 and 3% 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	1	4	0	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	9
4.3 Current Ground Workings	0	0	0	1	9

Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	9
5.2 Coal Mining	1	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

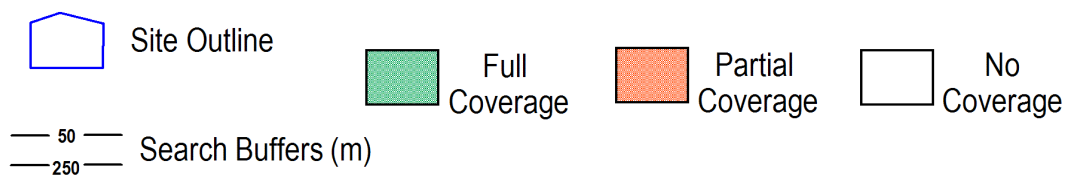
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Low				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Very Low				
6.4 Compressible Deposits	Very Low				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Very Low				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	11	10		
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	0	0	0	Not Searched	
9.3 Historical Railways	0	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	Some deposits are mapped	Full	Full	No coverage
N2	1126.0	Some deposits are mapped	Full	Full	Some deposits are mapped
N3	1969.0	Some deposits are mapped	Full	Full	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

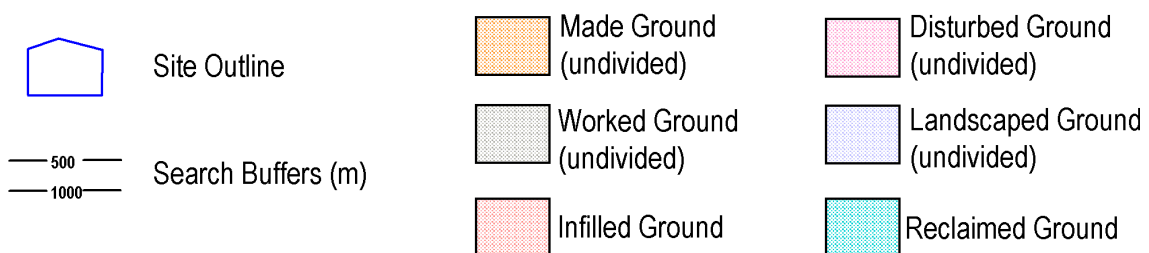
1 Geology (1:10,000 scale).

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



Artificial Ground Legend

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1. Geology 1:10,000 scale

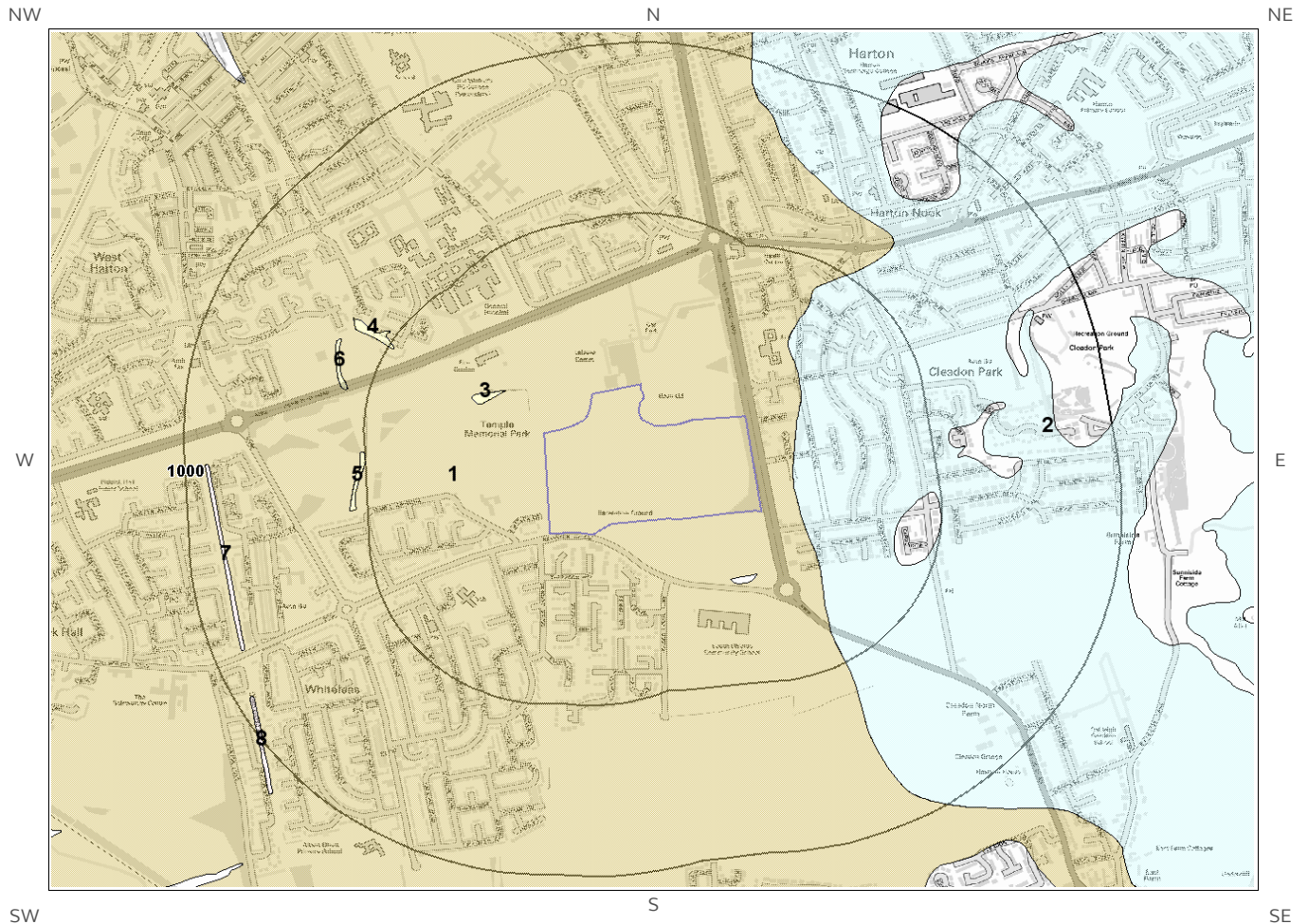
1.1 Artificial Ground

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? Yes

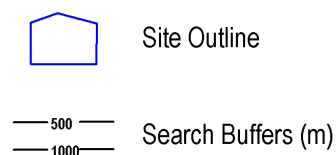
ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	9.0	S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	493.0	W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

1.2 Superficial Deposits and Landslips Map (1:10,000 scale)



Artificial Ground Legend

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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? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	PELC-C	Pelaw Clay Member - Clay	Clay
2	100.0	E	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	164.0	NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
4	484.0	NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
5	500.0	W	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

1.2.2 Landslip

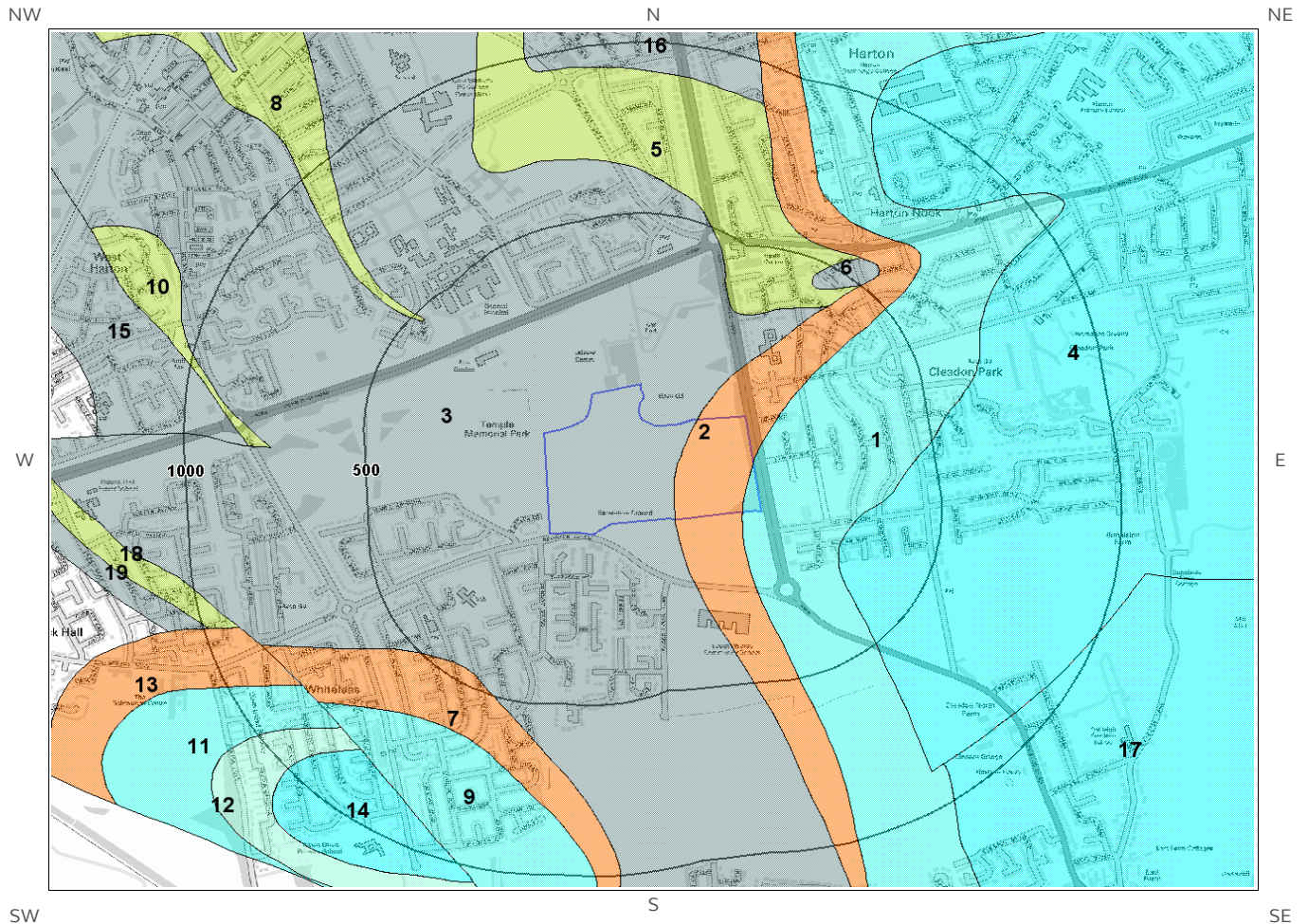
Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

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.

1.3 Bedrock and Faults Map (1:10,000 scale)

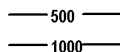


Bedrock and Faults Legend

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Site Outline



Search Buffers (m)

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.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	RML-DOLO	Raisby Formation - Dolostone	Late Permian Epoch [Obsolete name]
2	0.0	On Site	YWS-SDST	Yellow Sands Formation - Sandstone	Late Permian Epoch [Obsolete name] - Cisuralian Epoch
3	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
4	238.0	SE	ROD-DOLO	Roker Formation - Dolostone	Late Permian Epoch [Obsolete name]
5	297.0	N	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
6	425.0	NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
7	457.0	SW	YWS-SDST	Yellow Sands Formation - Sandstone	Late Permian Epoch [Obsolete name] - Cisuralian Epoch
8	469.0	NW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

1.3.2 Faults

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

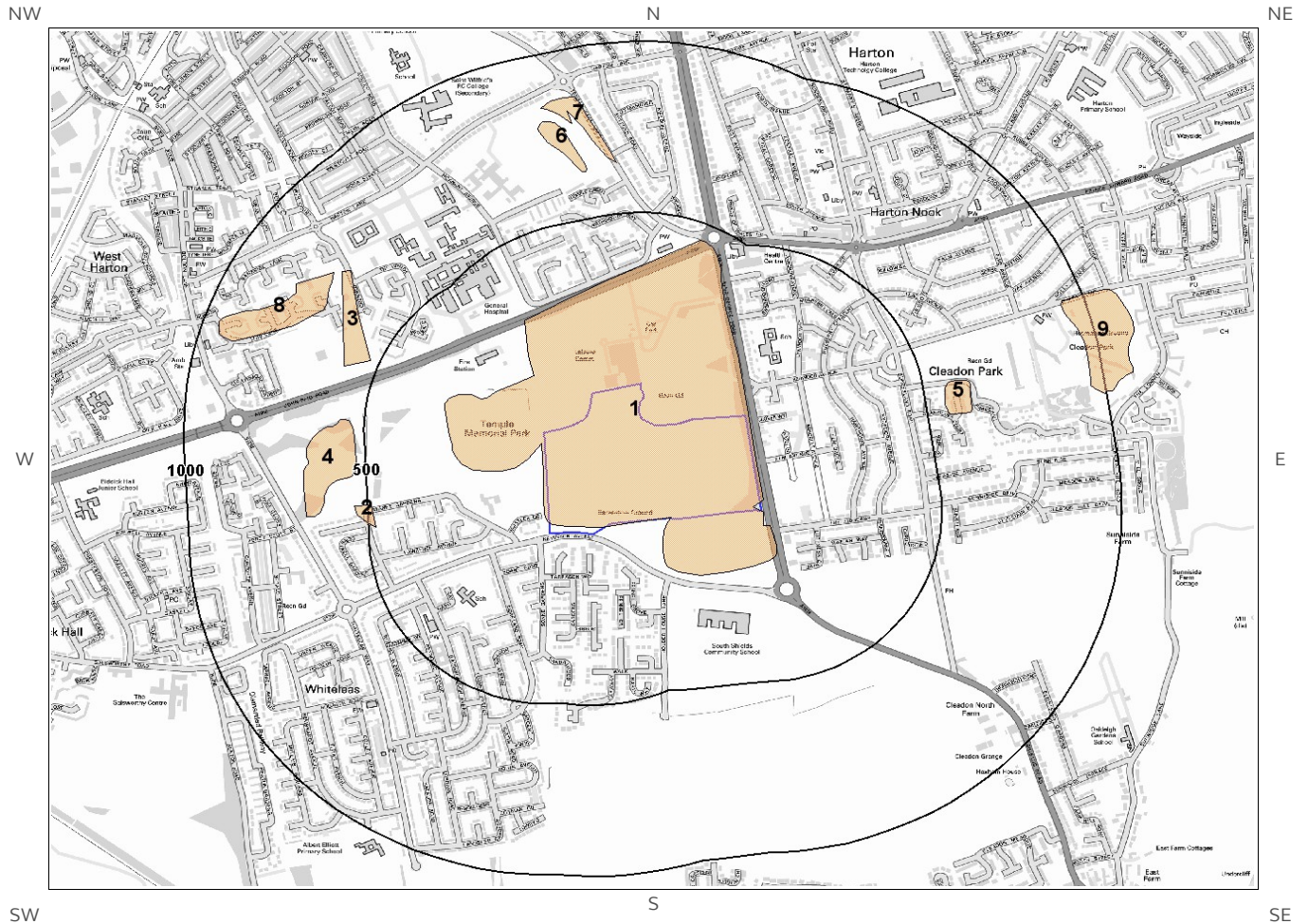
Database searched and no data found at this scale.

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.

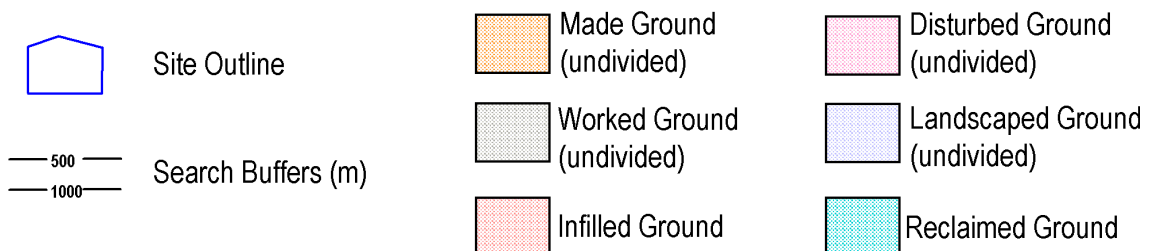
2 Geology 1:50,000 Scale

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: 021

2.1.1 Artificial/ Made Ground

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

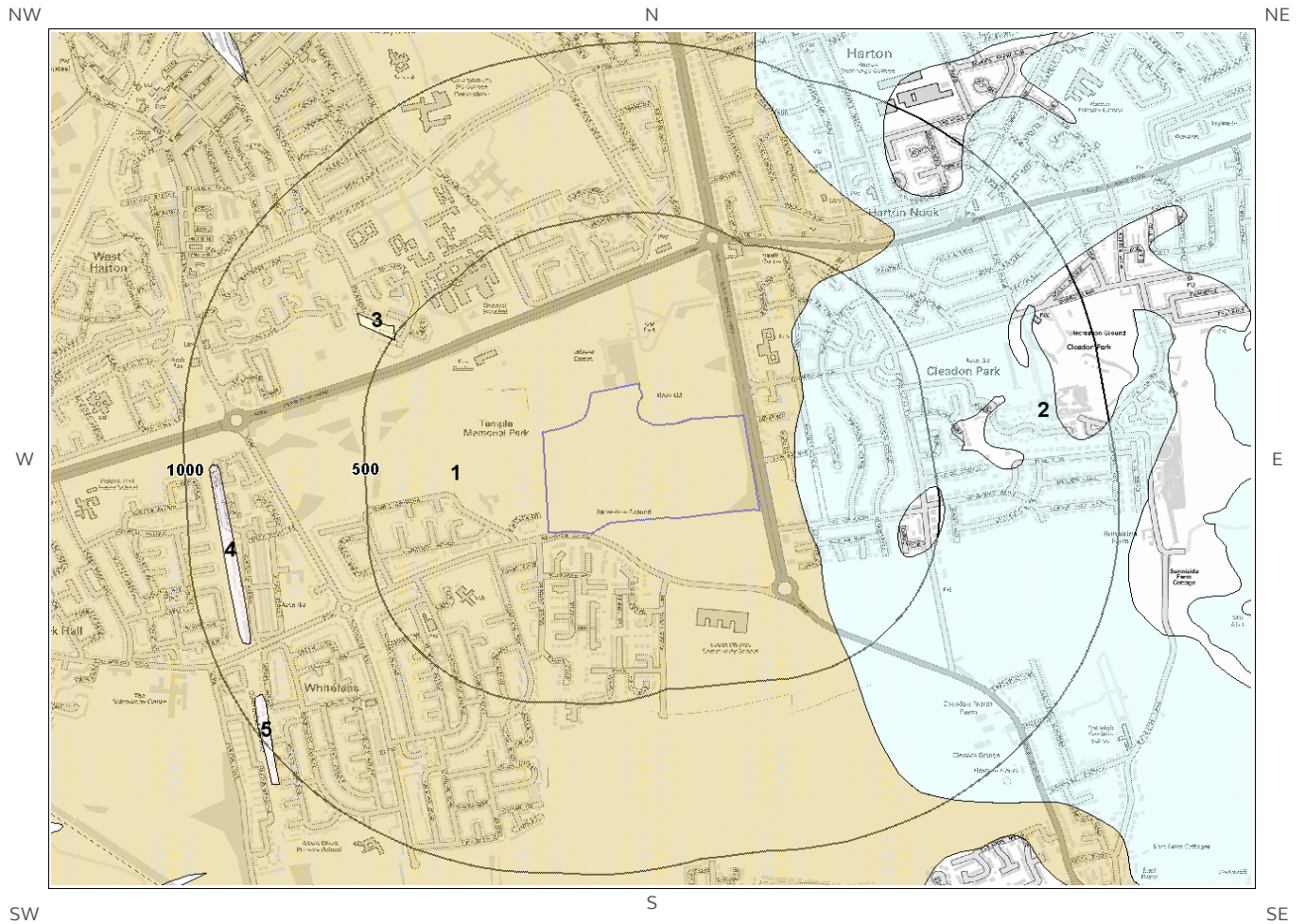
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	480.0	W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

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

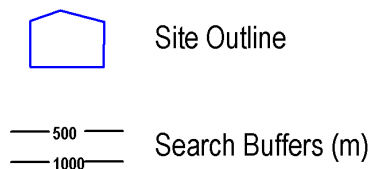
Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Very High	Low

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	PELC-C	PELAW CLAY MEMBER	CLAY
2	111.0	E	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	493.0	NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, 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	UNKNOWN	NULL	NULL

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.

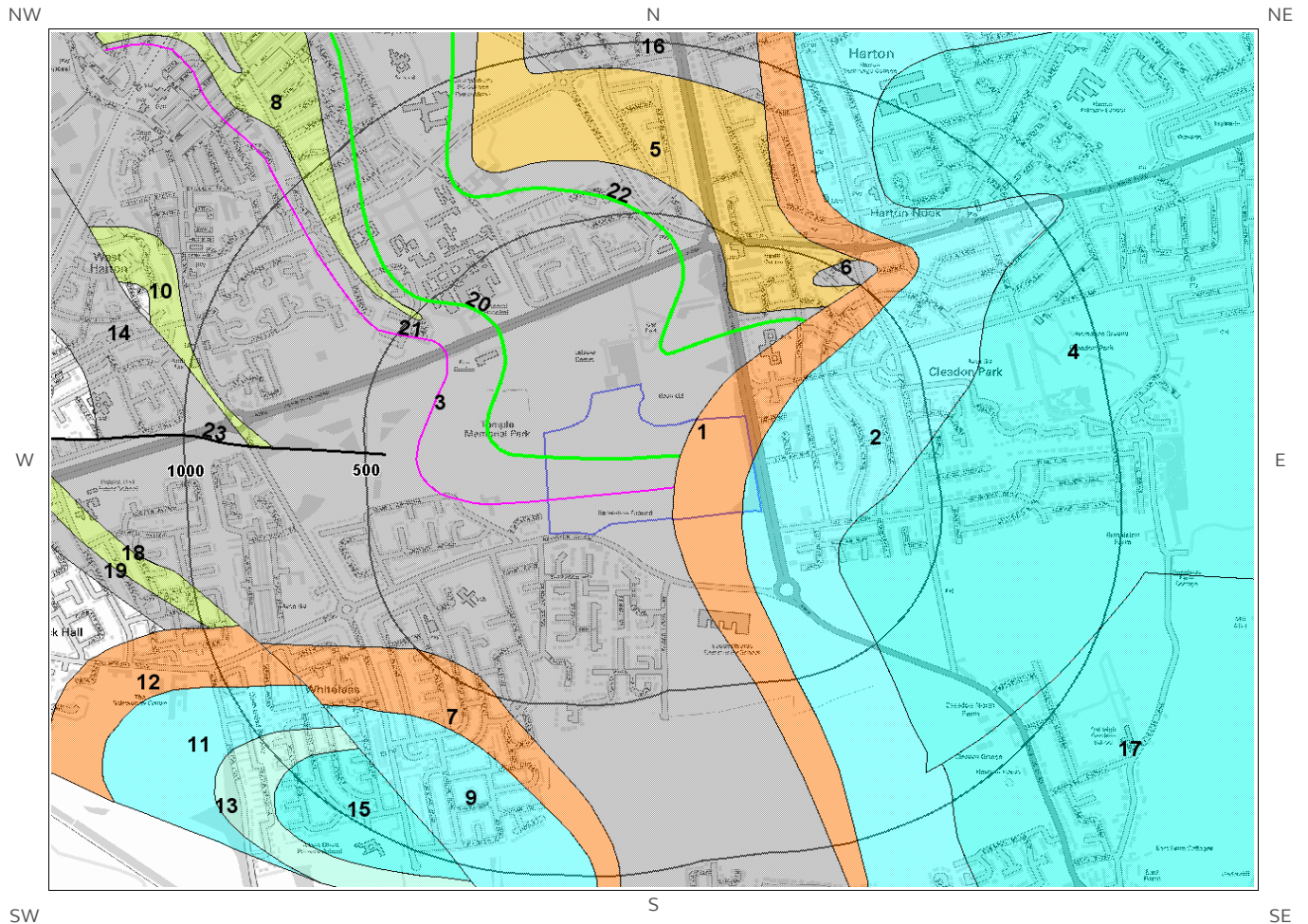
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

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

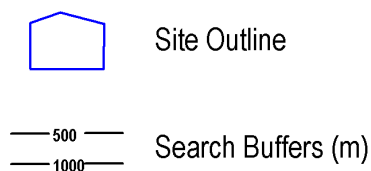
Database searched and no data found.

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: 021

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	YWS-SDST	YELLOW SANDS FORMATION - SANDSTONE	-
2	0.0	On Site	RML-DOLO	RAISBY FORMATION - DOLOSTONE	-
3	0.0	On Site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	236.0	E	ROD-DOLO	ROKER FORMATION - DOLOSTONE	-
5	304.0	N	GNP-SDST	GRINDSTONE POST MEMBER - SANDSTONE	WESTPHALIAN
6	433.0	NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	457.0	SW	YWS-SDST	YELLOW SANDS FORMATION - SANDSTONE	-
8	478.0	NW	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

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	Fracture	Very High	High
0.0	On Site	Fracture	Moderate	Low
0.0	On Site	Mixed	High	High

2.3.3 Faults

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

ID	Distance	Direction	Category Description	Feature Description
20	0.0	On Site	ROCK	Coal seam, inferred
21	0.0	On Site	FOSSIL_HORIZON	Marine band
22	114.0	NE	ROCK	Coal seam, inferred
23	441.0	W	FAULT	Fault, inferred, displacement unknown

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

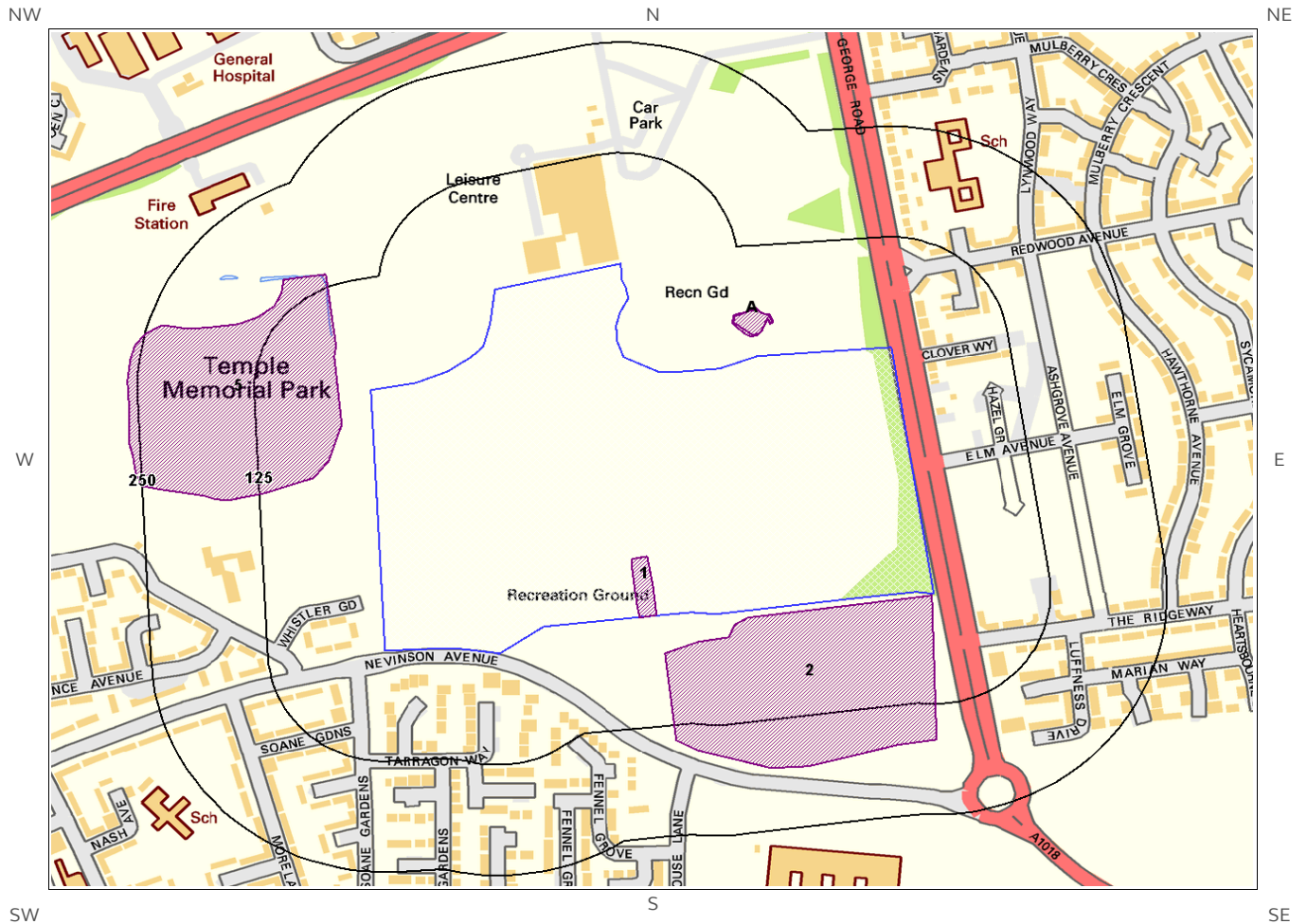
3.1 Radon Affected Areas

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 in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level.

3.2 Radon Protection

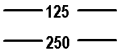
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

4 Ground Workings Map



Ground Workings Legend

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- | | | | |
|---|--------------------|---|----------------------------------|
|  | Site Outline |  | Historic Surface Ground Workings |
|  | Search Buffers (m) |  | 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
1	0.0	On Site	437261 563508	Unspecified Heap	1968
2	2.0	S	437429 563401	Unspecified Heap	1974
3A	23.0	N	437376 563807	Pond	1921
4A	24.0	N	437378 563808	Pond	1940
5	33.0	W	436823 563734	Refuse Heap	1968

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? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	532.0	W	436405 564033	Unspecified Mine	1968
Not shown	537.0	W	436183 564138	Colliery	1940
Not shown	607.0	NW	436428 564014	Air Shaft	1940
Not shown	704.0	NW	436178 564054	Colliery	1921
Not shown	705.0	NW	436150 564120	Colliery	1968
Not shown	707.0	NW	436207 564155	Colliery	1895
Not shown	711.0	NW	436175 564066	Colliery	1921

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	729.0	NW	436203 564174	Colliery	1895
Not shown	782.0	NW	436203 564202	Colliery	1855

4.3 Current Ground Workings

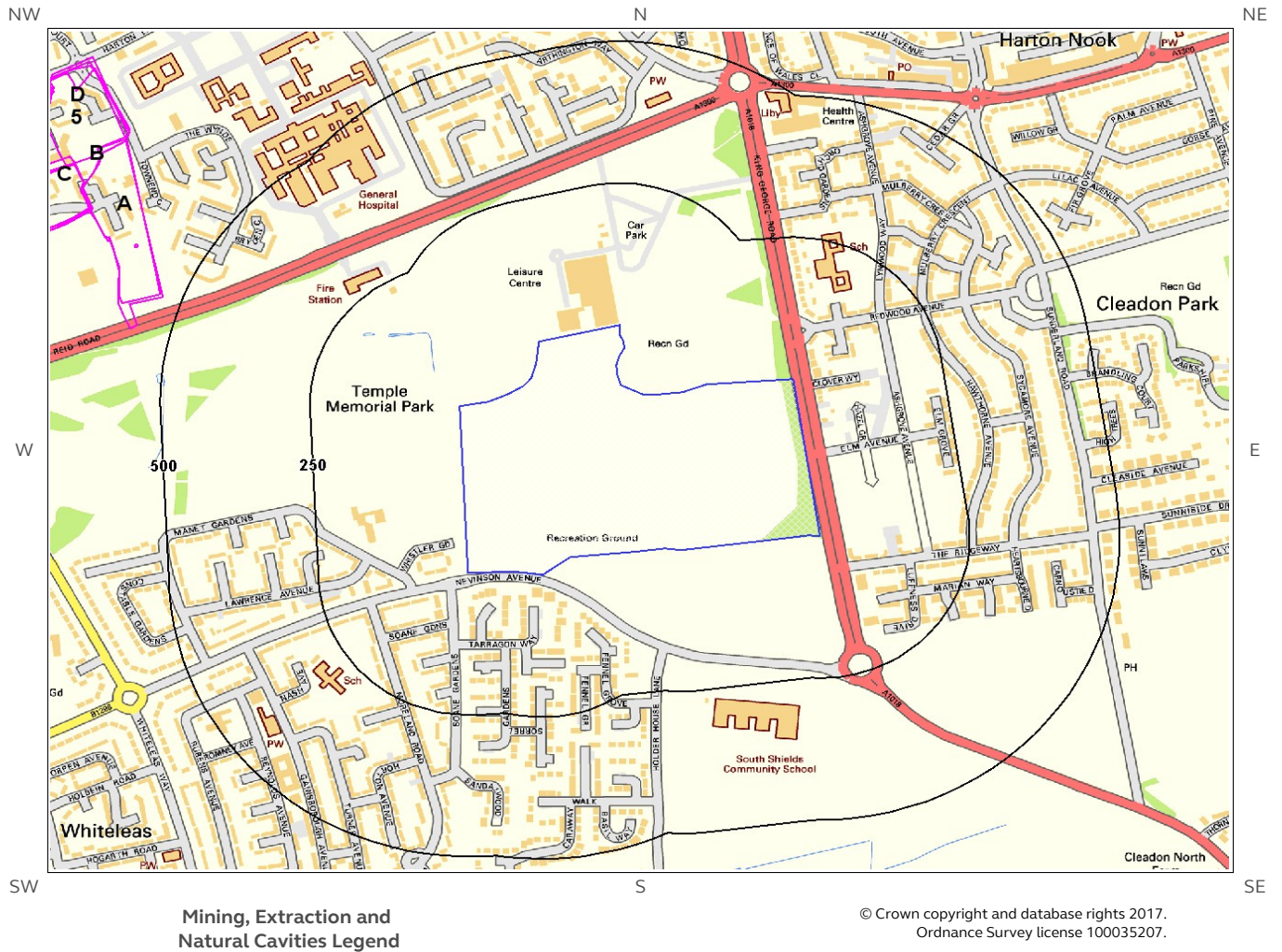
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

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
Not shown	421.0	E	437989 563458	Dolomite	Cleadon Laws	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	594.0	NW	436426 563974	Coal, Deep	Harton Colliery New Pit	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	631.0	W	436339 563693	Clay & Shale	West Harton Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	633.0	W	436343 563569	Clay & Shale	West Harton Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	675.0	E	438231 563644	Dolomite	Cleadon Park	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	778.0	E	438274 563990	Dolomite	Cleadon Park	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	846.0	SW	436234 563043	Clay & Shale	Whiteleas Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	888.0	NW	436179 564138	Coal, Deep	Harton Colliery Old Pit	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	922.0	E	438380 564125	Dolomite	Cleadon Park	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	989.0	E	438500 563950	Dolomite	Cleadon	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities Map



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? Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
1A	532.0	W	436405 564033	Unspecified Mine	1968
2B	537.0	W	436183 564138	Colliery	1940
3A	607.0	NW	436428 564014	Air Shaft	1940
4C	704.0	NW	436178 564054	Colliery	1921
5	705.0	NW	436150 564120	Colliery	1968
6B	707.0	NW	436207 564155	Colliery	1895
7C	711.0	NW	436175 564066	Colliery	1921
8D	729.0	NW	436203 564174	Colliery	1895
9D	782.0	NW	436203 564202	Colliery	1855

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? Yes

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

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

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

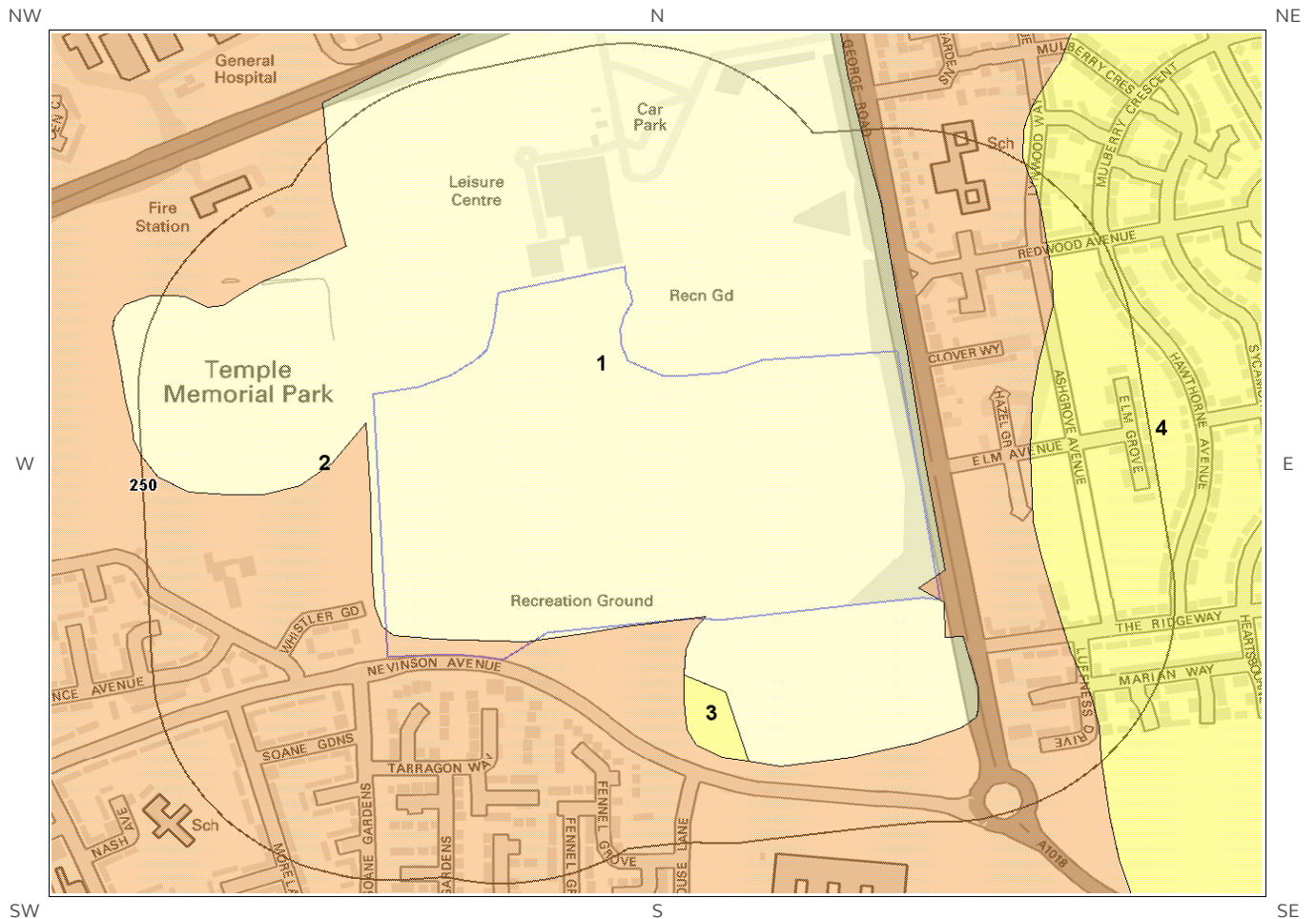
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

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

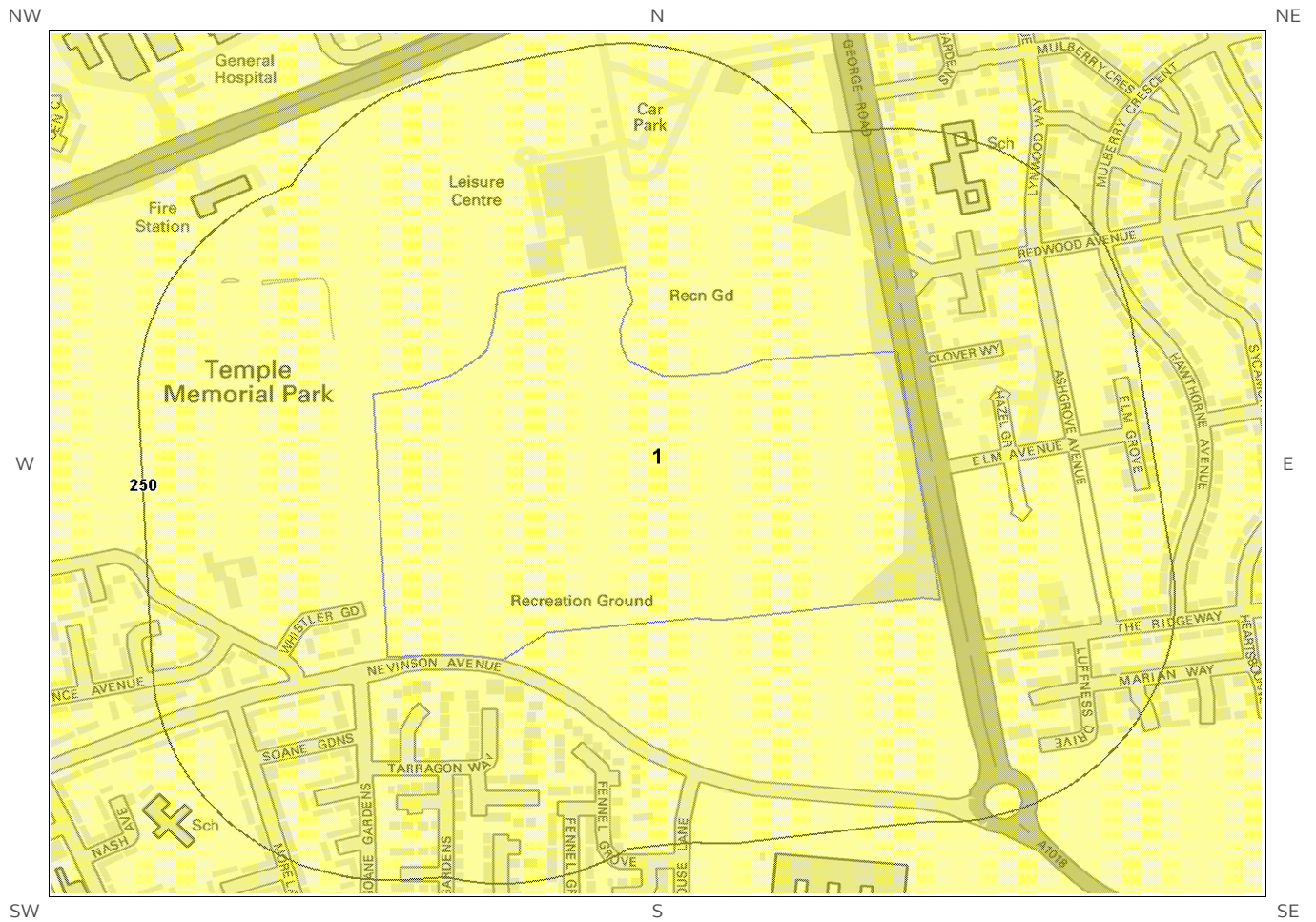


Shrink Swell Clay Legend

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6.2 Landslides Map

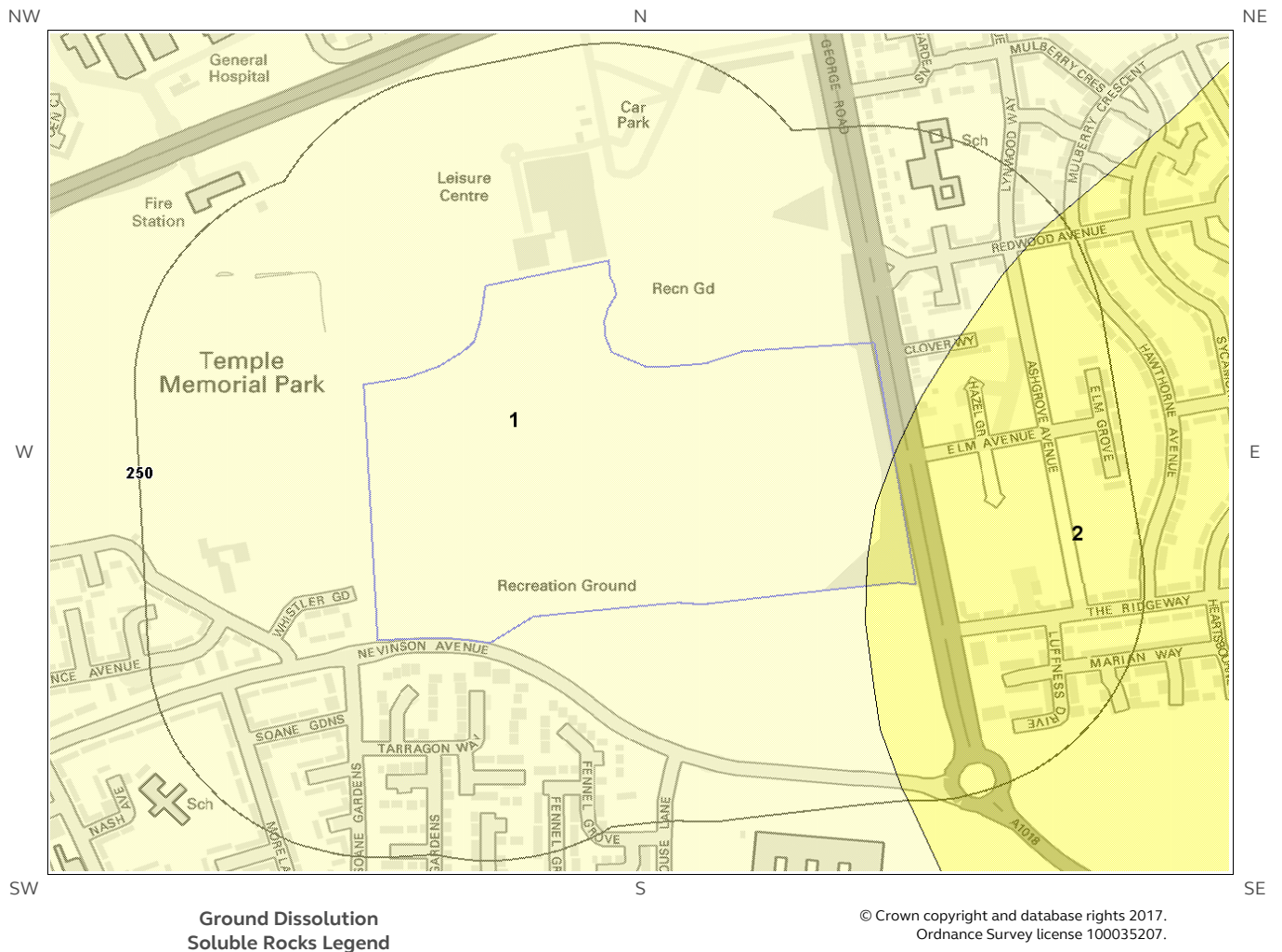


Landslides Legend

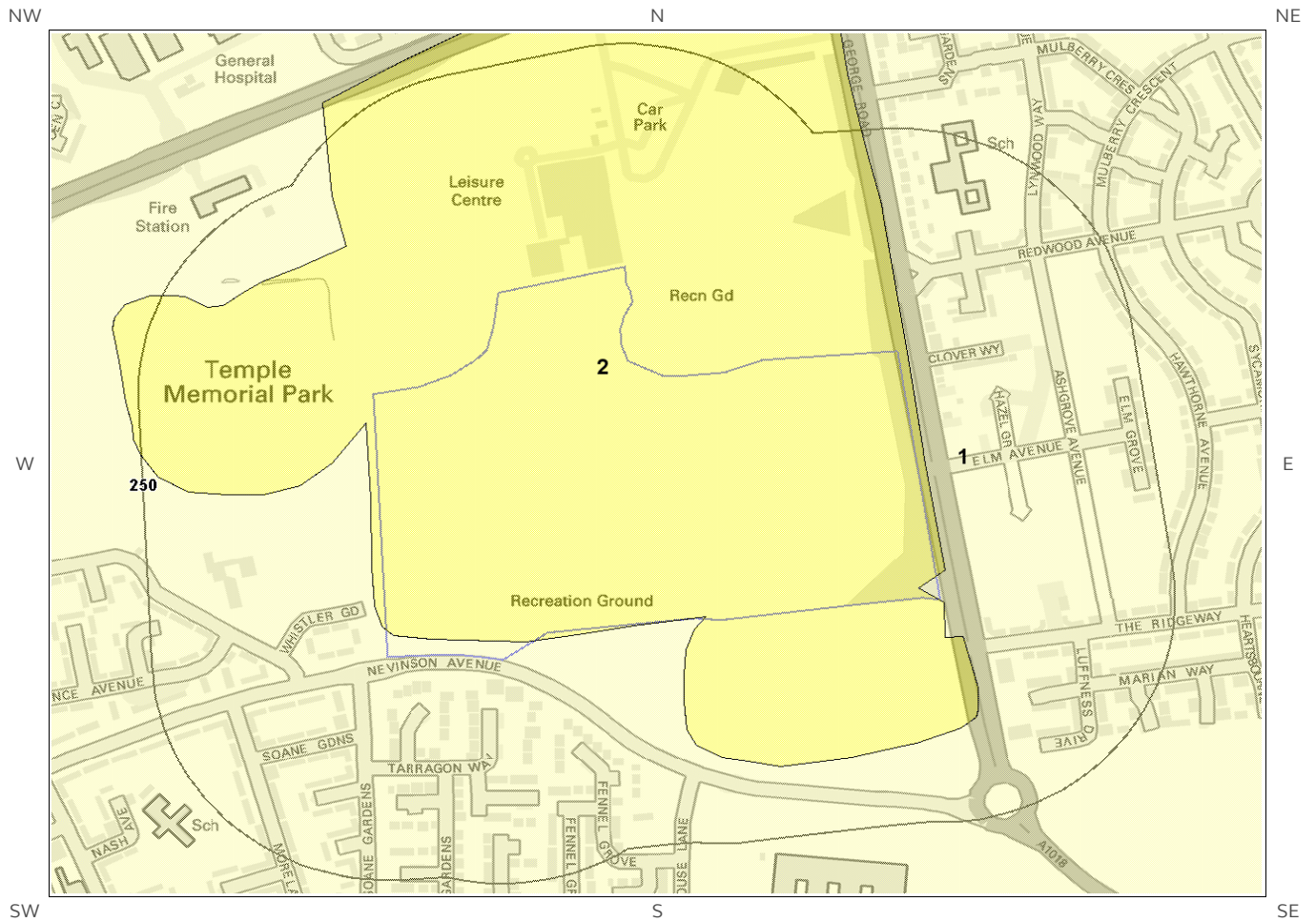
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6.3 Ground Dissolution of Soluble Rocks Map



6.4 Compressible Deposits Map

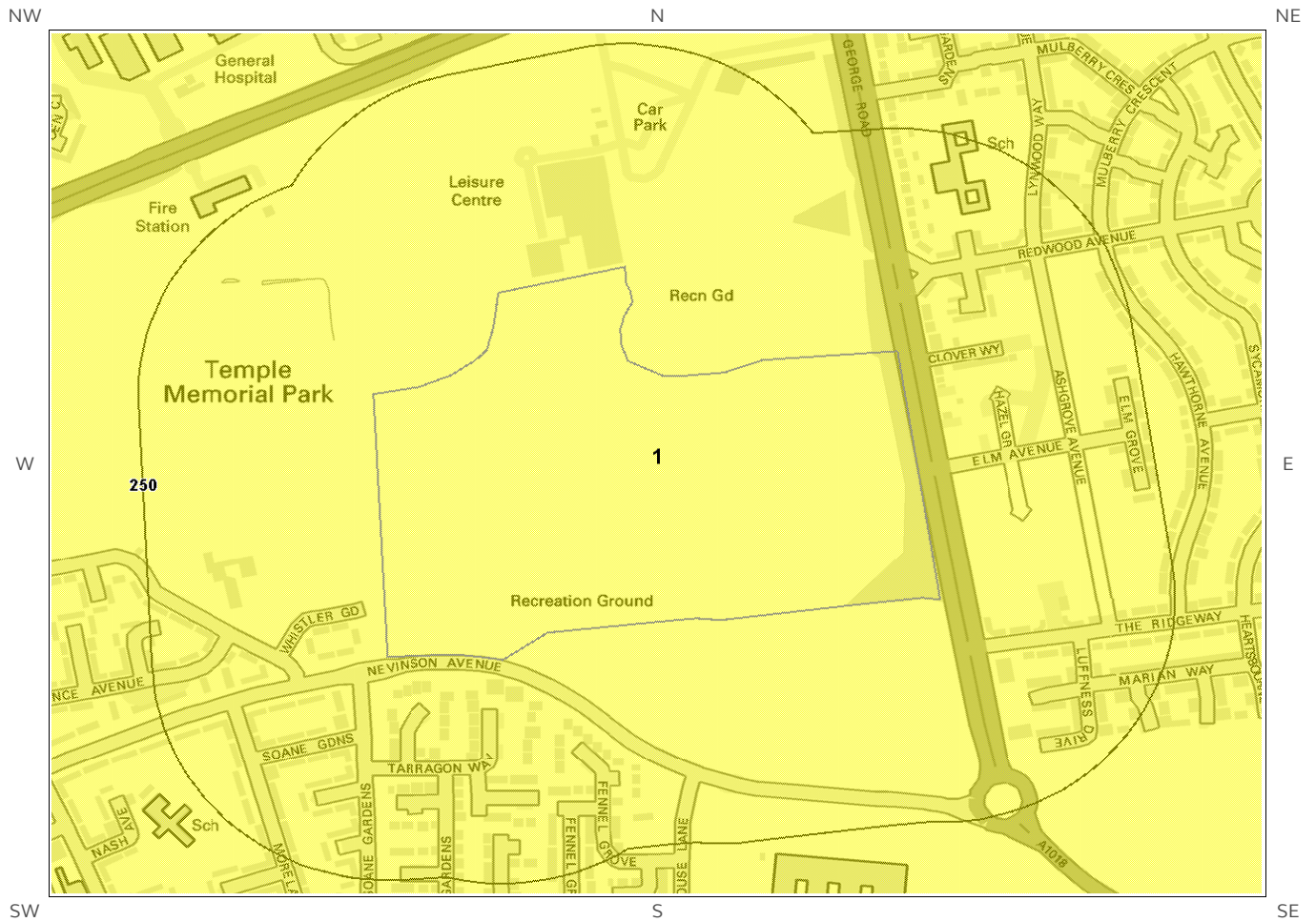


Compressible Deposits Legend

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6.5 Collapsible Deposits Map

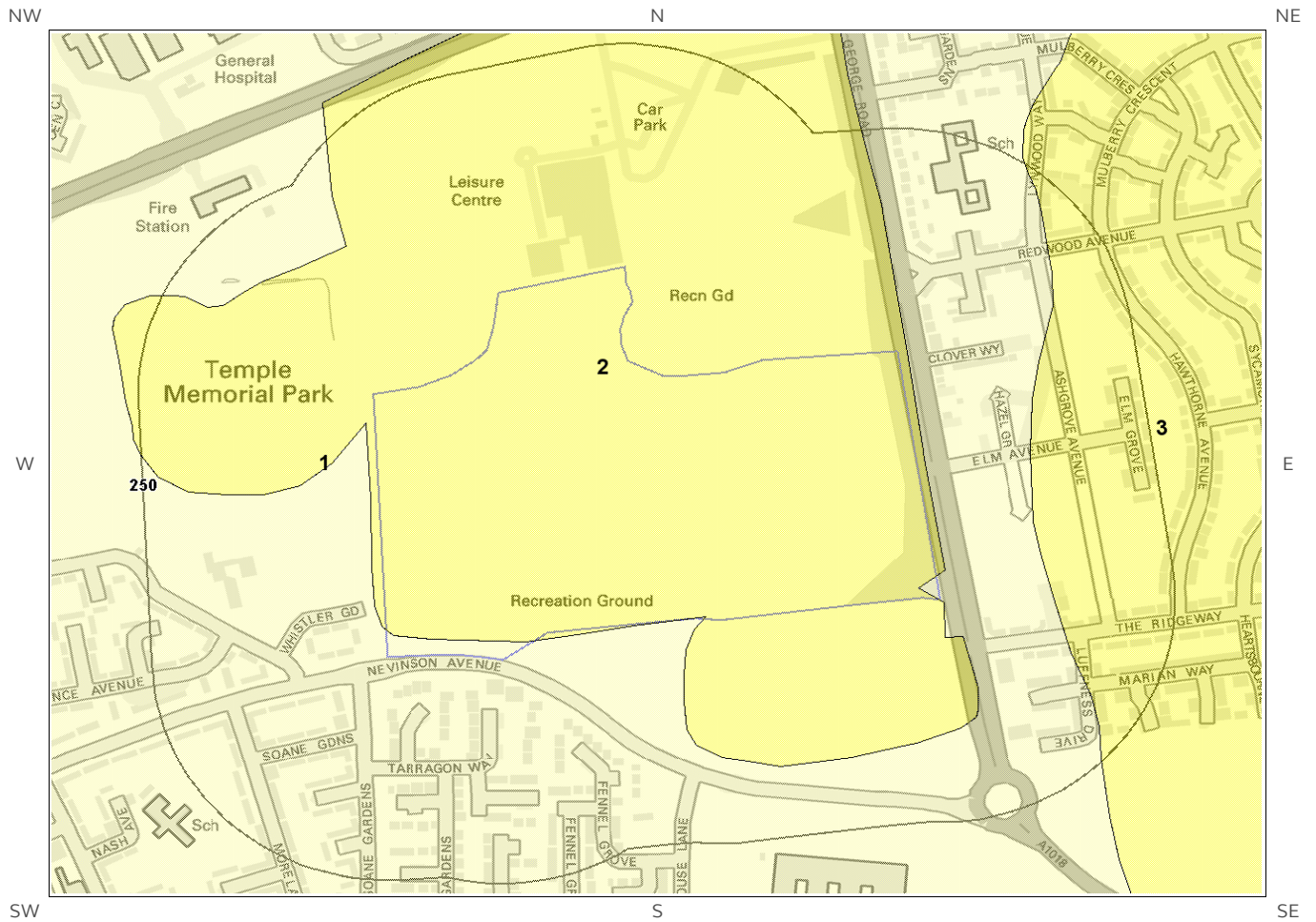


Collapsible Deposits Legend

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6.6 Running Sand Map



Running Sand Legend

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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? Low

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	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.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

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

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

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.
2	0.0	On Site	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

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	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.
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.

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	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.

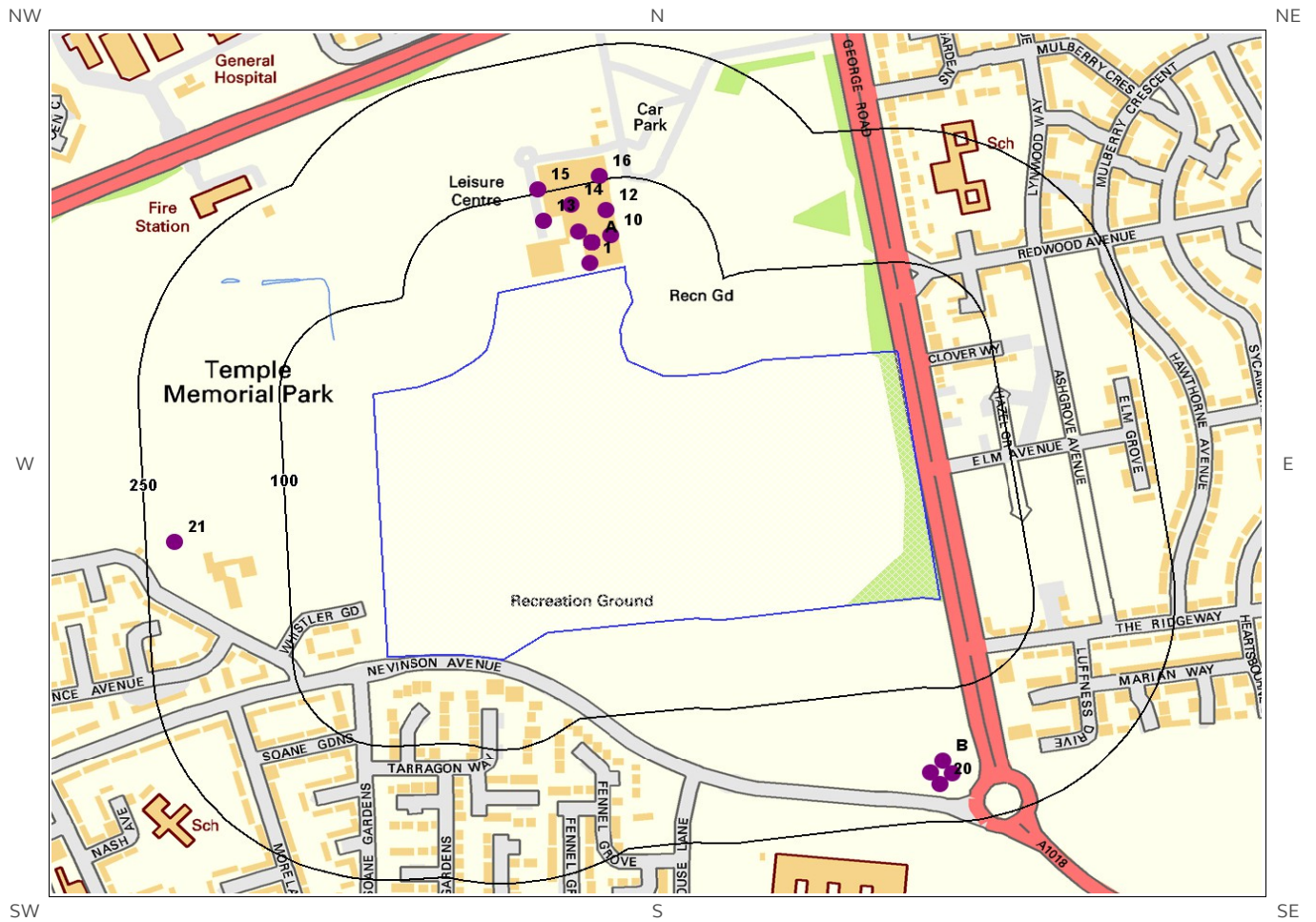
6.6 Running Sands

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	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.

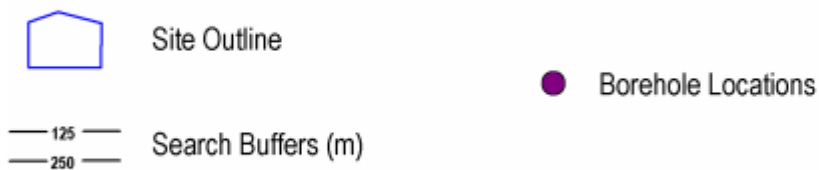
ID	Distance (m)	Direction	Hazard Rating	Details
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

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:

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ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	11.0	N	437198 563877	NZ36SE172	12.19	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 1
2A	33.0	N	437200 563900	NZ36SE57/5	12.19	TEMPLE PARK SOUTH SHIELDS BH5
3A	33.0	N	437200 563900	NZ36SE57/7	12.19	TEMPLE PARK SOUTH SHIELDS BH7
4A	33.0	N	437200 563900	NZ36SE57/6	12.19	TEMPLE PARK SOUTH SHIELDS BH6
5A	33.0	N	437200 563900	NZ36SE57/2	12.19	TEMPLE PARK SOUTH SHIELDS BH2
6A	33.0	N	437200 563900	NZ36SE57/1	12.19	TEMPLE PARK SOUTH SHIELDS BH1
7A	33.0	N	437200 563900	NZ36SE57/8	7.92	TEMPLE PARK SOUTH SHIELDS BH8
8A	33.0	N	437200 563900	NZ36SE57/3	12.19	TEMPLE PARK SOUTH SHIELDS BH3
9A	33.0	N	437200 563900	NZ36SE57/4	12.19	TEMPLE PARK SOUTH SHIELDS BH4
10	37.0	N	437220 563909	NZ36SE173	12.19	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 2
11A	49.0	N	437186 563913	NZ36SE175	12.19	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 4
12	66.0	N	437215 563937	NZ36SE176	12.19	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 5
13	68.0	N	437149 563925	NZ36SE174	12.19	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 3
14	80.0	N	437178 563943	NZ36SE178	12.19	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 7
15	104.0	N	437143 563960	NZ36SE177	12.19	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 6
16	105.0	N	437208 563975	NZ36SE179	7.92	TEMPLE MEMORIAL PARK, SOUTH SHIELDS. BH 8
17B	182.0	S	437573 563319	NZ36SE307	4.0	LEISURE CENTRE, NEVINSON AVENUE, SOUTH SHIELDS. BH3
18B	195.0	S	437560 563306	NZ36SE305	6.0	LEISURE CENTRE, NEVINSON AVENUE, SOUTH SHIELDS. BH1

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
19B	196.0	S	437583 563305	NZ36SE306	6.0	LEISURE CENTRE, NEVINSON AVENUE, SOUTH SHIELDS. BH2
20	208.0	S	437570 563293	NZ36SE308	4.0	LEISURE CENTRE, NEVINSON AVENUE, SOUTH SHIELDS. BH4
21	219.0	W	436757 563565	NZ36SE13	37.49	NO3 BORING HARTON

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

#1: scans.bgs.ac.uk/sobi_scans/boreholes/17298085
 #2A: scans.bgs.ac.uk/sobi_scans/boreholes/746548
 #3A: scans.bgs.ac.uk/sobi_scans/boreholes/746550
 #4A: scans.bgs.ac.uk/sobi_scans/boreholes/746549
 #5A: scans.bgs.ac.uk/sobi_scans/boreholes/746545
 #6A: scans.bgs.ac.uk/sobi_scans/boreholes/746544
 #7A: scans.bgs.ac.uk/sobi_scans/boreholes/746551
 #8A: scans.bgs.ac.uk/sobi_scans/boreholes/746546
 #9A: scans.bgs.ac.uk/sobi_scans/boreholes/746547
 #10: scans.bgs.ac.uk/sobi_scans/boreholes/17298086
 #11A: scans.bgs.ac.uk/sobi_scans/boreholes/17298088
 #12: scans.bgs.ac.uk/sobi_scans/boreholes/17298089
 #13: scans.bgs.ac.uk/sobi_scans/boreholes/17298087
 #14: scans.bgs.ac.uk/sobi_scans/boreholes/17298091
 #15: scans.bgs.ac.uk/sobi_scans/boreholes/17298090
 #16: scans.bgs.ac.uk/sobi_scans/boreholes/17298092
 #17B: scans.bgs.ac.uk/sobi_scans/boreholes/17695334
 #18B: scans.bgs.ac.uk/sobi_scans/boreholes/17695332
 #19B: scans.bgs.ac.uk/sobi_scans/boreholes/17695333
 #20: scans.bgs.ac.uk/sobi_scans/boreholes/17695335
 #21: scans.bgs.ac.uk/sobi_scans/boreholes/746477

8 Estimated Background Soil Chemistry

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

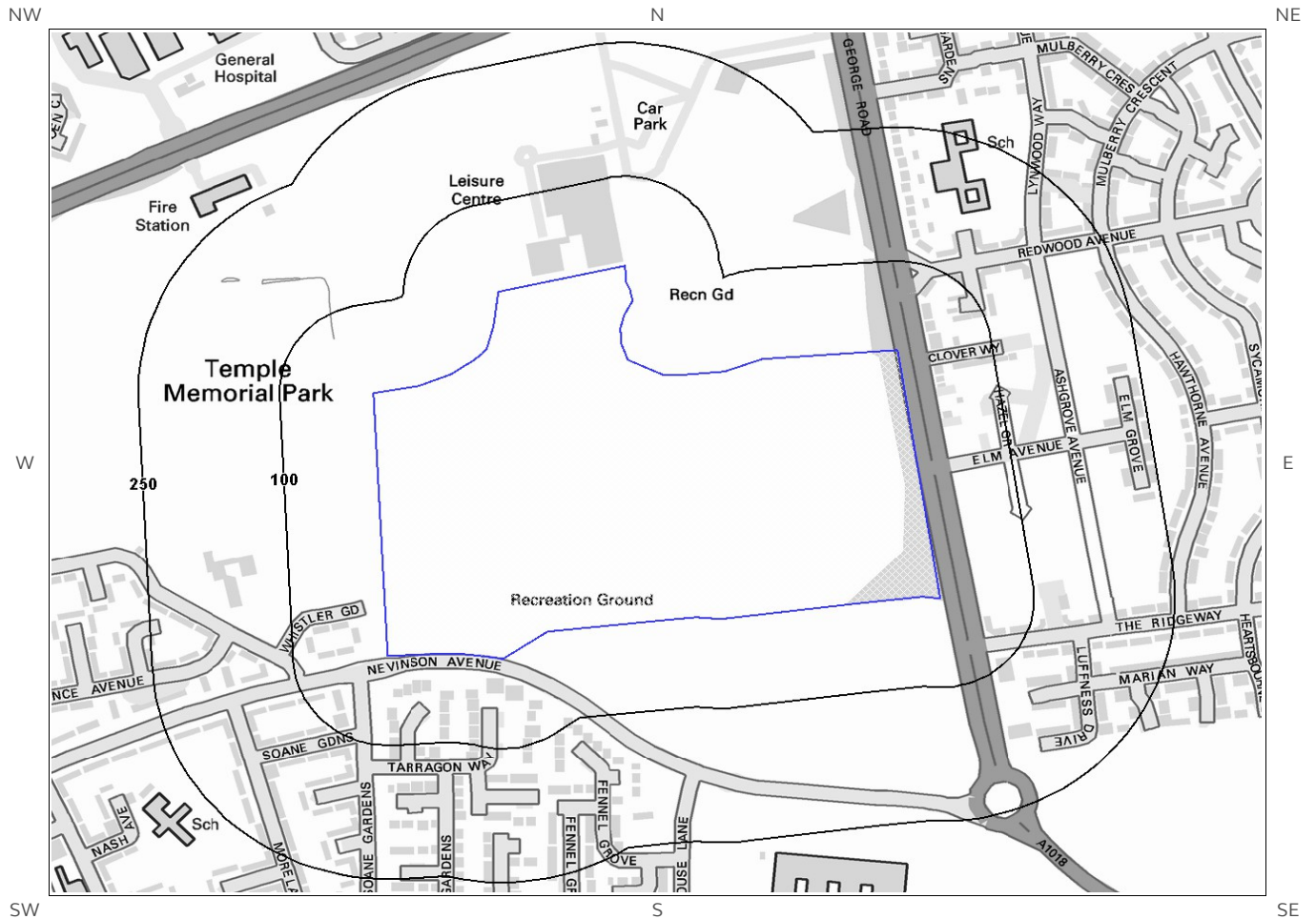
19

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	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
1.0	SE	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
9.0	E	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
9.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg

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

9 Railways and Tunnels Map



Railways and Tunnels Legend

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

 Site Outline
 250 Search Buffers (m)
 500

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? No

Have any historical railway or tunnel features 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.

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? No

Have any historical 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.

9.4 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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Telephone: 08444 159 000
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Web: www.bgs.ac.uk



BGS Geological Hazards Reports and general geological enquiries

British Gypsum

British Gypsum Ltd
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The Coal Authority

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Tel: 0345 7626 848
DX 716176 Mansfield 5
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<https://www.groundsure.com/terms-and-conditions-sept-2016/>

APPENDIX D
MINING REPORT CON29M



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

ACCESS ROAD TO AND FROM TEMPLE
PARK CENTRE
SOUTH SHIELDS
SOUTH TYNESIDE
NE34 8FS

Date of enquiry: 29 August 2017
Date enquiry received: 29 August 2017
Issue date: 29 August 2017

Our reference: 51001595184001
Your reference: JCC17-051



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

JAMES CHRISTOPHER CONSULTING

Enquiry address

ACCESS ROAD TO AND FROM TEMPLE PARK
CENTRE, SOUTH SHIELDS, SOUTH TYNESIDE, NE34
8FS

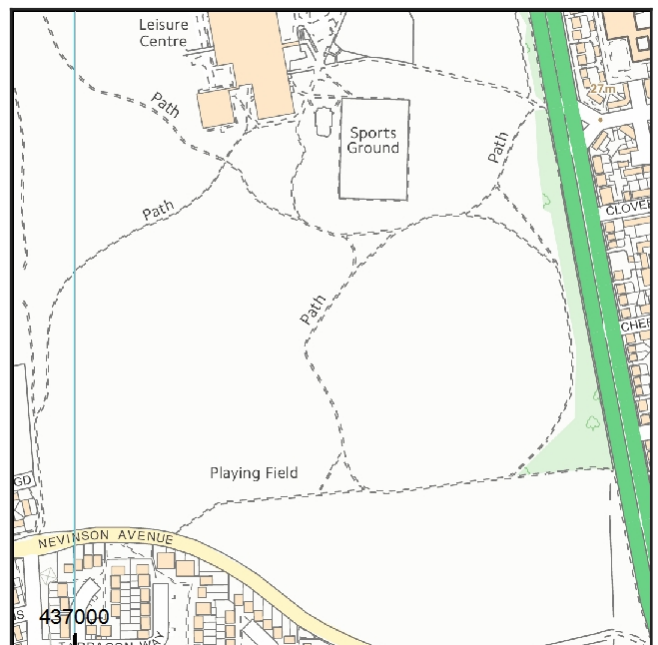
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 /coalauthority



Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	No
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 6 seams of coal at 300m to 480m depth, and last worked in 1969.

Any movement in the ground due to coal mining activity should have stopped.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on the Coal Authority information section of the report.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Comments on the Coal Authority information

The Coal Authority own the copyright in this report and the information used is protected by our database right.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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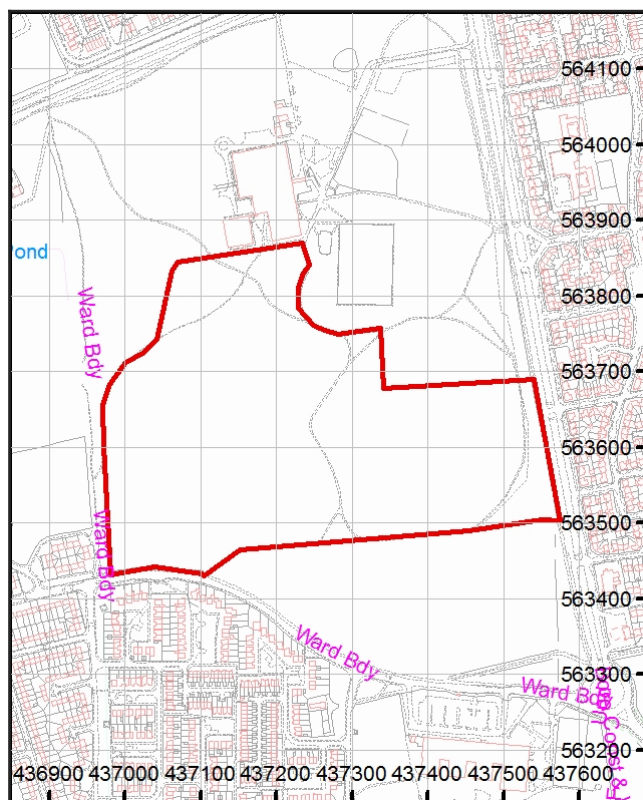
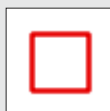
Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



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VAT receipt

Issued by	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date	29 August 2017
Issued to	JAMES CHRISTOPHER CONSULTING SALTWELL BUSINESS PARK 4 MCMILLAN CLOSE, MCMILLAN CLOSE LOW FELL GATESHEAD NE9 5BF
Property search for	ACCESS ROAD TO AND FROM TEMPLE PARK CENTRE SOUTH SHIELDS SOUTH TYNESIDE NE34 8FS
Reference number	51001595184001
Date of issue	29 August 2017
Cost	£167.80
VAT @ 20%	£33.56
Total received	£201.36
VAT registration	598 5850 68

APPENDIX E
Site Photographs
(From Site Walkover 19th April 2017)









