



**Geo-Environmental**

**GROUND APPRAISAL REPORT**

**for the site at**

**LAND AT WEST END ROAD**

**BURSLEDON, HAMPSHIRE**

**SO31 8BN**

**on behalf of**

**WATES DEVELOPMENTS LIMITED**





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| Report:                                                                                                                                                                                               | GROUND APPRAISAL REPORT                                                                                                                                               |
| Site:                                                                                                                                                                                                 | LAND AT WEST END ROAD, BURSLEDON, HAMPSHIRE, SO31 8BN                                                                                                                 |
| Client:                                                                                                                                                                                               | WATES DEVELOPMENTS LIMITED                                                                                                                                            |
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| Prepared by:                                                                                                                                                                                          | <br>ANTHONY POTTER MSc, BSc (Hons), FGS<br>SENIOR CONSULTING ENGINEER                |
| Reviewed by;                                                                                                                                                                                          | <br>JONATHAN TINGLEY CEnv M.Sc. B.Eng. (Hons) F.G.S. MEnvSc.<br>TECHNICAL DIRECTOR |
| Authorised by:                                                                                                                                                                                        | <br>EDWARD NEWMAN B.Sc. (Hons) F.G.S.<br>ASSOCIATE DIRECTOR                        |
| <p><b>Geo-Environmental Services Limited</b><br/>Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL<br/>+44(0)1273 832972 <a href="http://www.gesl.net">www.gesl.net</a></p> |                                                                                                                                                                       |





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| EXECUTIVE SUMMARY           |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | Site Address        | Land at West End Road, Bursledon, Hampshire, SO31 8BN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                             | Form of Development | Construction of a commercial development and associated infrastructure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Encountered Conditions      | Scope of works      | An intrusive investigation to confirm the ground and groundwater conditions and support the development of geotechnical and geo-environmental assessments of the site in relation to the proposed development.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                             | Ground Conditions   | The ground conditions comprised a limited thickness of Topsoil and Made Ground overlying the River Terrace deposits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                             | Groundwater         | Groundwater was encountered within WS02, WS05-WS08 and WS11 during the investigation at depths of between 0.45m and 3.47m bgl, with standing water depths of between 0.45m and 2.78m bgl after twenty minutes. Standpipes were installed within all boreholes to depths of between 1.30m and 4.00m bgl with twelve monitoring visits planned over the winter period. To date, the first two groundwater monitoring visits have been undertaken, groundwater was recorded at depths of between 0.00m and 1.50m bgl.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Geotechnical Considerations | Foundations         | <p>The ground conditions encountered in the exploratory holes comprised varying layers of sandy gravelly clays, clayey gravelly sands and clayey sandy gravels. Based on the results of the Atterberg Limit tests it is recommended that the cohesive soils of the River Terrace Deposits be classified en-masse as medium-volume change potential as defined by NHBC Standards, Chapter 4.2 and BRE Digest 240. The more granular parts of the River Terrace Deposits may be considered non shrinkable. Due to the variability in the ground conditions, it is recommended that foundation depths be calculated based on medium volume change potential soils. Therefore, remote from influence of trees a minimum foundation depth of 0.90m would be applicable within the natural soils. A minimum foundation width of 0.45m is recommended. Although not strictly applicable to the form of construction</p> <p>Based on the ground and groundwater conditions encountered in the exploratory holes, it is inconclusive as to whether conventional strip, trench-fill or isolated pad and beam foundations would be suitable for the proposed structures. Shallow groundwater strikes were recorded in the boreholes and subsequent return monitoring visits which may result in foundation excavation instability and running sand. Further investigation by means of trial pits will be required prior to finalising the foundation solution to assess excavation stability and the rate and depth of water seepages. Where shallow excavations are unstable an alternative form of foundations such as piles may be required.</p> <p>Where further investigation determines that shallow foundations would be constructible the following recommendation would apply. Based on the typical settlement parameters for the types of soil encountered, a maximum net allowable bearing capacity of 125kPa is applicable for trench, strip or isolated pad foundations up to 1.50m in width taken through any Topsoil, Made Ground, soft or loose zones, desiccated or disturbed soils and placed wholly into or onto the firm to very stiff</p> |



|                |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                 | gravelly sandy clays and the medium dense to very dense sandy gravels and sand and gravel of the River Terrace Deposits. Under the above loadings the settlements should remain within tolerable limits for the proposed scheme. Where foundations span between cohesive and granular horizons, nominal reinforcement will be required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                | Excavations     | Both shallow and deep excavations within the River Terrace Deposits are likely to be prone to instability, particularly where left open for prolonged periods or where water is encountered. In such circumstances, excavations should be battered back to a temporary safe angle of repose, or suitable shoring techniques should be adopted to provide stability. Pumping from sumps would also be required where water is encountered.<br><br>It should be noted that shallow groundwater strikes were recorded in the boreholes which may result in foundation excavation instability and running sand. Further investigation by means of trial pits will be required prior to finalising the foundation solution. Where shallow excavations are unstable an alternative form of foundations such as piles may be required. |
|                | Pavements       | Based on the TRRL report, a preliminary design CBR value of 4% is recommended. Based on the geotechnical results, the near surface River Terrace Deposits should be considered as being non frost susceptible for pavement design purposes. It is recommended that during the next phase of ground investigation insitu CBR tests be undertaken along proposed access roads.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                | Floor Slabs     | Subject to further investigation remote from trees it may be feasible to construct ground bearing floor slabs upon the River Terrace Deposits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                | Drainage        | Soakage Testing did not form part of the remit of the investigation. Whilst some permeable granular soils have been encountered there is the potential for shallow groundwater which would affect storage capacity of any soakaways. It is recommended that some full scale BRE 365 soakage testing is included in any future phases of ground investigation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                | Buried Concrete | It is recommended that a design class of DS-1 and an ACEC class of AC-1s be applied to all sub-surface concrete within the River Terrace Deposits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Considerations | Human Health    | The results of the chemical testing have been compared directly with the generic assessment criteria for a commercial end use without plant uptake.<br><br>All of the results were below the relevant thresholds for the samples tested whilst asbestos was identified.<br><br>The majority of pesticide concentrations were below laboratory detection limits with the exception of some results for DDD, DDE, DDT and Dieldrin however, the results were only marginally above the limit of detection and were well below the Environmental Protection Agency Regional Screening Levels for pesticides.<br><br>However, it should be noted that the farmyard area was not investigated                                                                                                                                        |



|  |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                   | at this stage and therefore, it is recommended that this is undertaken at a later date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|  | Ground gas        | No onerous concentrations of ground gases have been identified during the initial visit. Preliminary findings indicate that ground gas protection measures are unlikely to be required. A final ground gas assessment in the form of an addendum letter will be issued on completion of the ground gas monitoring.                                                                                                                                                                                                                                                                          |
|  | Built Environment | Based on the findings, protection measures for water supply pipes are not considered warranted but the results should be submitted to the water utility provider for confirmation.                                                                                                                                                                                                                                                                                                                                                                                                          |
|  | Waste Disposal    | The laboratory results and WAC analysis for the samples of the recovered soils were assessed using the HazWasteOnline software which determines whether a generated waste is hazardous or non-hazardous based on standard laboratory analysis and are based on the chemical properties of the sample and therefore the appropriate indicative List of Waste code is '17 05 04 Soil and stones other those mentioned in 17 05 03*'.<br>Based on the results of the analysis, the near surface soils of the Topsoil, Made Ground and River Terrace Deposits were classified as Non-Hazardous. |

**Further Actions:****Pre Construction**

- The results of this investigation be presented to the water utility company as soon as reasonably practicable to confirm the water pipe material.
- Ongoing ground gas monitoring and reporting.
- The results of the chemical testing be passed onto the receiving landfill for final classification.
- Completion of groundwater monitoring and reporting.
- Further site investigation including the farmyard area.
- Further investigation by means of trial pits will be required prior to finalising the foundation solution.
- Undertake soakage testing to BRE Digest 365.

**During Construction**

- A discovery strategy should be maintained during development such that any abnormal conditions (geotechnical or potential contamination) are identified and their potential impact on the proposed development assessed prior to determining any potential mitigation measures.



## **1.0 INTRODUCTION**

Geo-Environmental Services Limited was instructed by Wates Developments Limited to undertake an investigation of the geotechnical and geo-environmental factors pertaining to Land at West End Road, Bursledon, Hampshire, SO31 8BN. The site's location is presented in Figure 1.

### **1.1 Development Proposals**

It is understood that the site is proposed to be developed with houses, private gardens, public open space, access roads and associated infrastructure. The proposed development plan can be found within Figure 3.

### **1.2 Site Description**

The site was an irregular shaped plot of land located to the west of West End Road and to the north of Windhover Roundabout, Bursledon. The site was accessed via a locked gate off West End Road which led down a track to a farmyard in the southeastern corner of the site. The farmyard comprised a barn, stables and shipping containers. At the time of the ground investigation a portion of the farmyard was fenced off for use as seasonal Christmas tree sales. Furthermore, the site was also noted to be in use as a dog training facility. The northern portion of the site comprised additional fields and dense woodland.

The remainder of the site comprised open fields of grass which sloped down to the southwest. At the time of the ground in the northwestern portion of the site was soft and often waterlogged. Markers for an oil pipeline were noted running through the northwestern and northern portions of the site but outside of the development area.

The land to the north of the site comprised residential properties, a caravan sales centre, a car dealership, an ambulance station and woodland. The land to the west comprised open fields with residential development to the southwest. A roundabout was present to the south of the site, beyond which there was a supermarket. The land east of the site comprised open fields and residential housing, beyond which lay the M27.

### **1.3 Objectives**

The data from the geotechnical investigation was to form the basis of an interpretation with respect to foundation design, concrete specification, excavation stability and other pertinent construction issues.

The data was used to evaluate the risks posed to the proposed redevelopment, adjacent land uses and the wider environment, in the context of likely planning requirements, immediate liabilities under the Environmental Protection Act 1990 and risks posed to Controlled Waters under the Water Resources Act from the current status of the site and in line with the proposed redevelopment.

### **1.4 Standards**

Where practicable, the ground investigation and subsequent geotechnical and environmental assessments were undertaken in accordance with the following documents and guidance:

- British Standards Institute - Code of Practice for Earth Retaining Structures (BS8002:2015).
- British Standards Institute - Code of Practice for Site Investigations (BS5930:2015+A1:2020).



- British Standards Institute - Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings (BS8485:2015+A1:2019).
- British Standards Institute - Eurocode 7 - Geotechnical Design - Parts 1 & 2 (BS EN1997-1:2004 & BS EN1997-2:2007).
- British Standards Institute - Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs) (BS8576:2013).
- British Standards Institute - Investigation of Potentially Contaminated Sites - Code of Practice (BS10175:2011+A2:2017).
- British Standards Institute - Soils for Civil Engineering Purposes (BS1377:1990).
- British Standards Institute - Specification for Topsoil and Requirements for Use (BS3882:2015).
- Building Research Establishment - Soakaway Design - DG 365 (2016).
- Building Research Establishment - The Performance of Building Materials in Contaminated Land (BRE255) (1994).
- Construction Industry Research and Information Association - Assessing risks posed by hazardous ground gases to buildings (C665) (2007).
- Department for Environment Food and Rural Affairs and CL:AIRE - Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination (SP1010) (2014).
- Department of Environment - Industry Profiles (1995 - 1996).
- Environment Agency - Guidance for waste destined for disposal in landfills (2006).
- Environment Agency - Guidance on Requirements for Land Contamination Reports (2005).
- Environment Agency - Land Contamination: Risk Management (LCRM) (2019 + Update 2023).
- Ministry of Housing, Communities and Local Government - National Planning Policy Framework (2019).
- National House Building Council, Environment Agency & Chartered Institute of Environmental Health - Guidance for the Safe Development of Housing on Land Affected by Contamination (R&D Publication 66) (2008).
- National House Building Council - Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present (10627-R01[04]) (2007).
- National House Building Council - Standards, Chapter 4.1 Land Quality - Managing Ground Conditions (2023).

### **1.5 Conditions**

This report does not purport to be a “Geotechnical Design Report” as defined in Clause 2.8 of Eurocode 7 (Geotechnical Design BS EN 1997-1:2004) and some of the data used to support the geotechnical assessment may not be fully compliant with that design code, due to the access restrictions at the time of the fieldworks and methods of investigation adopted. It is considered possible that further detailed ground investigations could be required to facilitate the detailed geotechnical design process and should be carried out on a structure specific basis if necessary.

The data collected from the investigations have been used to provide an interpretation of the environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time





of sampling. This report should not be taken as any guarantee that a site is free of hazardous or potentially contaminative materials.

Information contained in this report is intended for the use of the Client, and Geo-Environmental can take no responsibility for the use of this information by any party for uses other than that described in this report. Geo-Environmental makes no warranty or representation whatsoever express or implied with respect to the use of this information by any third party. Geo-Environmental does not indemnify the Client or any third parties against any dispute or claim arising from any finding or other result of this investigation report or any consequential losses.

Assessment criteria or other parameters developed for the evaluation of contamination on this site are based on a number of assumptions regarding exposure and toxicology, and exposure to contaminants and levels of adverse effects may therefore vary. Whilst every care and expertise has been employed in the development of such criteria, no liability is accepted in this respect. Other criteria or guidance on the development of assessment criteria may be published in the future, and no liability is accepted in this respect.

## **2.0 DESK STUDY & GROUND INVESTIGATION REVIEW**

A desk study report was prepared by Geo-Environmental on behalf of Wates developments in December 2023 (ref: GE22135/DSR/DEC23). The preliminary risk assessment based on the desk study information and can be found overleaf along with the conclusions.



| Potential Source/Media                                     | Potential Receptors          | Possible Pathways                                  | Probability    | Consequence | Risk & Justification                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------|------------------------------|----------------------------------------------------|----------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contaminants of Concern<br>(Shallow Soils and Made Ground) | End Users                    | Direct contact and inhalation of soil derived dust | Likely         | Minor       | <b>Low</b><br>Future site users may come into direct contact with soils where soft landscaping is present. Where soft landscaping is proposed it will be completed with uncontaminated soils in the near surface root zone which will reduce the risk.                                                                                                                                       |
|                                                            | Adjacent Land Users          | Direct contact and inhalation of soil derived dust | Unlikely       | Minor       | <b>Very Low</b><br>Adjacent site users are unlikely to come into contact with the soils at the site.                                                                                                                                                                                                                                                                                         |
|                                                            | Soft Landscaping             | Root uptake                                        | Unlikely       | Mild        | <b>Very Low</b><br>Soft landscaping is proposed on the site and thus, root uptake is possible. However, landscaping would be completed with uncontaminated soils in the near surface root zone. Furthermore, no clear evidence of harm to existing vegetation was observed. Where soft landscaping is proposed it will be completed with uncontaminated soils in the near surface root zone. |
|                                                            | Water Supply Pipes           | Direct contact                                     | Low Likelihood | Minor       | <b>Very Low</b><br>Water supply pipes are likely to come into contact with impacted soils depending upon depth of installation and extent of soil impact.                                                                                                                                                                                                                                    |
|                                                            | Buildings and Infrastructure | Direct contact                                     | Likely         | Minor       | <b>Low</b><br>Foundations and utilities will be placed within potentially aggressive soils (e.g. sulphate). However, the consequence is anticipated to be minor.                                                                                                                                                                                                                             |
|                                                            | Groundwater                  | Vertical Migration                                 | Unlikely       | Minor       | <b>Very Low</b><br>The site overlies secondary undifferentiated strata. However, significant potentially mobile contamination is not anticipated.                                                                                                                                                                                                                                            |



| Potential Source/Media                                                            | Potential Receptors          | Possible Pathways                                              | Probability | Consequence | Risk & Justification                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------|------------------------------|----------------------------------------------------------------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   | Surface Water                | Lateral Migration                                              | Unlikely    | Minor       | <b>Very Low</b><br>No surface water features are present on site. However, significant potentially mobile contamination is not anticipated.                                                                                                                                                   |
| Ground gases and vapours from any Made Ground and historic landfills to the south | End Users                    | Inhalation                                                     | Low         | Medium      | <b>Moderate/Low</b><br>Future use may inhale potential ground gases produced by this source. Extensive or deep Made Ground on site sufficient for significant ground gas generation is not anticipated. However, the off-site historic landfills may be a source of ground gases to the site. |
|                                                                                   | Buildings and infrastructure | Gas accumulation and potential explosion of flammable gases    | Unlikely    | Minor       | <b>Very Low</b><br>Extensive putrescible material sufficient for significant methane production is not anticipated at the site. Significant methane migration from the off-site landfills is also not anticipated.                                                                            |
| Naturally occurring aggressive ground conditions                                  | End users                    | Direct contact and inhalation / ingestion of soil derived dust | Unlikely    | Minor       | <b>Very Low</b><br>No naturally occurring potential sources which could harm human health have been identified. The consequence is likely to be minor.                                                                                                                                        |
|                                                                                   | Adjacent land users          | Direct contact                                                 | Unlikely    | Minor       | <b>Very Low</b><br>No potential sources which could harm human health have been identified. The consequence is likely to be minor.                                                                                                                                                            |
|                                                                                   | Water supply pipes           | Direct contact                                                 | Unlikely    | Minor       | <b>Very Low</b><br>No potential sources which could harm human health have been identified. The consequence is likely to be minor.                                                                                                                                                            |
|                                                                                   | Buildings and Infrastructure | Direct contact                                                 | Likely      | Minor       | <b>Low</b><br>Foundations will be placed within soils which may be an aggressive environment for concrete. However, the consequence is anticipated to be minor.                                                                                                                               |

Table 2.1: Preliminary Risk Assessment



## **2.1 Preliminary Risk Assessment**

The Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) developed from the information gathered as part of the desk study process identified several plausible pollutant linkages that exist in relation to the proposed development of the site and the preliminary risk rating for the majority of pollution linkages were classified as low or very low. A moderate/low risk rating has been assigned in relation to risks relating to ground gases from the off-site historic landfills to the south of the site.

The potential pollutant linkages established within this desk study were not considered to prevent development on the subject site but could require remediation or the employment of risk mitigation measures to reduce the risks to key receptors.

In order to progress the assessment in line with the National Planning Policy Framework, to provide further characterisation of the site and refinement of the PRA and CSM, it was recommended that intrusive investigation and associated testing be undertaken to confirm the findings of the desk study report and to provide a robust risk assessment for the site and proposed development. As such, it was recommended that geochemical and geotechnical investigation be carried out on the site to include analysis of soil samples for the range of potential contaminants identified within the desk study.

## **2.2 Preliminary Geotechnical Assessment Summary**

With reference to British Geological Survey (BGS) mapping, the underlying geology was anticipated to comprise River Terrace Deposits overlying the Wittering Formation. Given the previous agricultural land use and surrounding developed land, there remained the possibility that there may be areas of reworked, disturbed or Made Ground across the site.

It was considered possible that conventional strip or pad foundations could be suitable for the proposed development where natural ground are encountered from ground level. However, where foundations are required in any areas of Made Ground or infilled ground, which may be present to depth beneath areas of the site, a deeper or piled foundation solution may be required. Shallow groundwater could also impact the viability of conventional foundations. The development should also take into account the presence of trees and/or desiccation at the site if shrinkable soils are present. Localised deepening of foundations may be required in the vicinity of trees and piled foundations may be required in proximity to trees (subject to tree type and ground conditions).

In line with a SuDS approach, storm water should be discharged to the ground wherever possible. Potential for this should be confirmed by soakage testing. In addition, a period of winter groundwater monitoring is often required by Lead Local Flood Authorities.

## **2.3 Conclusions**

The desk study has shown the subject site itself to historically comprise a mixture of woodland and open fields. There is potential for Made Ground to be present in some limited areas of the site potentially associated with adjacent development land and infilled ponds.

The proposed development is understood to comprise commercial development with access roads, open space and associated infrastructure.

A maximum risk rating of moderate/low has been assigned in relation to ground gases. Very low or low risk ratings have been classified related to soil contamination and naturally occurring aggressive ground conditions



at the site. Further assessment was recommended to progress characterisation of the contamination status and ground gas regime of the site to inform an update of the conceptual site model and to allow a robust assessment of the risk to human health and the environment.

It was considered possible that conventional foundations would be suitable for parts of the proposed development, although any design should account for the potential presence of shrinkable soils across the site, as well as the presence of trees and hedgerows on site and/or desiccation of the shallow soils. Disposal of stormwater to soakaways may be potentially possible in permeable soils subject to formal soakage testing.



### 3.0 GROUND INVESTIGATION SCOPE & RATIONALE

The following sections detail the scope and rationale for the investigation undertaken in November 2023.

#### 3.1 Investigation Scope

The following scope of works was agreed based on the requirements set out in the quotation included:

- Undertake a standalone desk study.
- Provision of a Construction Phase Plan and RAMS pack.
- Attendance of a specialist surveyor to undertake a buried utilities scan of the proposed exploratory hole locations using radio-detection and ground penetrating radar techniques.
- Attendance of a Geo-Environmental Engineer to set out and supervise the intrusive investigation, undertake logging of recovered soils from exploratory holes.
- Construction of 12No. dynamic sampler boreholes with Standard Penetration Tests (SPTs) at regular intervals to depths of up to 4m bgl.
- Installation of 12No. groundwater monitoring wells to a depth of 4m to facilitate return monitoring on six occasions. Winter Groundwater monitoring on a further 6No. occasions.
- Geotechnical laboratory testing to support the geotechnical assessment for foundations, ground floor construction and buried concrete design.
- Geochemical laboratory testing of 12No. samples for a suite of commonly occurring brownfield contaminants.
- Provision for 2No. waste categorisation suites and 2No. Waste Acceptance Criteria Tests to aid waste classification.
- Additional geochemical testing for pesticide screening have been included.
- Provision of a Ground Appraisal Report.
- Winter groundwater monitoring report upon completion of the monitoring period.

A total of 10No. dynamic sampler boreholes (WS01-WS03, WS05-WS11) were completed to assess ground and groundwater conditions. Due to the wet, boggy conditions within the north-western portion of the development area, it was not possible to undertake locations WS04 and WS12. The exploratory hole locations are shown on Figure 2.

#### 3.2 Investigation Rationale

The exploratory holes were located to provide broad coverage across the proposed development area. The following tables summarise the strategy of the environmental (Table 3.1) and geotechnical (Table 3.2) investigations.

| Environmental Area of Concern      | Investigation                                                                                   | Positions     |
|------------------------------------|-------------------------------------------------------------------------------------------------|---------------|
| Near Surface Soils and Made Ground | Window Sampler boreholes situated across the site with regular sampling and laboratory analysis | All Locations |
| Ground Gas and Vapours             | Ground gas monitoring standpipes installed within selected window sampler boreholes.            | All Locations |

**Table 3.1 Summary of Environmental Investigation Strategy**

It should be noted that gas monitoring visits are confirmatory only, no sources of ground gases were identified within the desk study report.

| Geotechnical Area of Concern                      | Investigation                                                                                             | Positions |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------|
| Lateral changes in ground conditions              | Window sampler boreholes undertaken with regular in-situ testing and sampling.                            | ALL       |
| Shrinkable soils                                  | Window sampler boreholes undertaken with regular in-situ testing and sampling.                            | ALL       |
| Shallow Groundwater                               | Standpipes installed within boreholes and groundwater observations made within all holes during drilling. | ALL       |
| Significant depths of Made Ground                 | Window sampler boreholes undertaken with regular in-situ testing and sampling.                            | ALL       |
| Aggressive chemical ground conditions (sulphates) | Window sampler boreholes undertaken with regular in-situ testing and sampling.                            | ALL       |

**Table 3.2 Summary of Geotechnical Investigation Strategy**





## 4.0 ENCOUNTERED CONDITIONS

A factual record of the conditions encountered during the physical investigations of the site is presented in the following section.

For further details of the encountered ground conditions, reference should be made to the engineer's logs presented in Appendix B, the preliminary groundwater/gas monitoring assessment presented in Appendix C, the geotechnical testing results in Appendix D, and the chemical testing results in Appendix E.

### 4.1 Anticipated Ground Conditions

Published geological records indicate that the ground conditions are likely to comprise the River Terrace Deposits overlying the Wittering Formation.

The rivers of the south-east of England, including the River Thames and its tributaries, have been subject to at least three changes of level since Pleistocene times. One result has been the formation of a complex series of River Terrace Deposits. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sands and gravels of roughly bedded flint or chert gravels varying degrees of coarseness.

The Wittering Formation is the lowest unit of the Bracklesham Group and was deposited by intertidal sedimentation during the Eocene. It comprises mainly brown grey laminated sandy clays and clayey sands with beds of green to brown glauconitic sands. Lignite beds may be encountered towards the base of the formation.

### 4.2 Ground Conditions

The ground conditions encountered comprised a mantle of Topsoil and Made Ground overlying the River Terrace Deposits. It should be noted that the Wittering Formation was not encountered during the site investigation.

A generalised summary of the encountered conditions is presented in Table 4.1.

| Top (m bgl) | Base (m bgl) | Generalised Geology                                                                                                                                                                                            | Locations       |
|-------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 0.00        | 0.20-0.35    | <b>TOPSOIL:</b> Dark brown slightly sandy, slightly clayey gravelly silt. Gravel is fine to medium, sub-angular of flint. Occasional to frequent rootlets.                                                     | ALL             |
| 0.20        | 0.50         | <b>MADE GROUND:</b> Dark brown to black slightly sandy, slightly gravelly silt. Gravel is fine to medium, sub-rounded to sub-angular flint. Gravel sized clasts of brick and tarmacadam.                       | WS01            |
| 0.25-2.00   | 0.50-2.00    | <b>RIVER TERRACE DEPOSITS:</b> medium dense to very dense dark brown, brown and orangish brown sandy GRAVEL, slightly clayey sandy GRAVEL, very sandy GRAVEL and slightly clayey SAND and GRAVEL.              | WS03, WS05-WS09 |
| 0.30-1.50   | 0.90-4.00    | <b>RIVER TERRACE DEPOSITS:</b> Firm to very stiff orangish brown and grey mottled sandy gravelly CLAY, gravelly CLAY and sandy CLAY. Sand is fine, gravel is fine to coarse, sub-rounded to sub-angular flint. | ALL             |
| 0.35-1.00   | 0.70-3.50    | <b>RIVER TERRACE DEPOSITS:</b> Medium dense orangish brown and light greyish brown slightly gravelly clayey SAND and clayey SAND.                                                                              | WS07, WS10      |

**Table 4.1 Summary of Ground Conditions**

Many of the boreholes refused during the investigation, table 4.2 identifies the locations and reason for refusal:

| Location | Geology                | Refusal Depth (m bgl) | Reason                   |
|----------|------------------------|-----------------------|--------------------------|
| WS01     | River Terrace Deposits | 3.00                  | Very stiff gravelly clay |



|      |                        |      |                                     |
|------|------------------------|------|-------------------------------------|
| WS03 | River Terrace Deposits | 2.60 | Very stiff gravelly clay            |
| WS05 | River Terrace Deposits | 1.60 | Very dense sandy clayey gravel      |
| WS06 | River Terrace Deposits | 3.00 | Medium dense clayey sand and gravel |
| WS07 | River Terrace Deposits | 3.50 | Gravelly sand                       |
| WS08 | River Terrace Deposits | 1.30 | Very dense sandy gravel             |
| WS09 | River Terrace Deposits | 1.50 | Very dense clayey sandy gravel      |

**Table 4.2: Summary of Refusals**

For more detailed descriptions of the ground conditions at specific locations, reference should be made to the exploratory hole logs and sections presented in Appendix B.

### 4.3 Groundwater

Groundwater was encountered within WS02, WS05-WS08 and WS11 during the investigation at depths of between 0.45m and 3.47m bgl, with standing water depths of between 0.45m and 2.78m bgl after twenty minutes. Standpipes were installed within all boreholes to depths of between 1.30m and 4.00m bgl with twelve monitoring visits planned over the winter period. To date, the first two groundwater monitoring visits have been undertaken, groundwater was recorded at depths of between 0.00m and 1.50m bgl.

It should be noted that changes in groundwater and perched water levels do occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within a series of standpipes or piezometers installed within appropriate response zones.

### 4.4 Ground Gases

Dual purpose gas and water monitoring standpipes were installed within all of the boreholes to depths of between 1.30 and 4.00m bgl. To date, the first two of six monitoring visits have been undertaken, Methane was recorded at 0.0% v/v, whilst carbon dioxide and oxygen have been recorded within the range of 0.0% v/v to 1.5% v/v and 18.8% v/v to 20.4% v/v respectively. A maximum VOC concentration of 0.0ppm has been recorded, whilst atmospheric pressure has been recorded between 983mb and 1019mb. No flows were recorded. Once the remaining visits have been completed, a monitoring report will be provided.

Where the groundwater level was higher than the response zone of the installed well, the gas results have been discounted as they are unlikely to be representative.

For further details, reference should be made to the preliminary ground gas assessment sheet in Appendix C.

### 4.5 Obstructions

No artificial obstructions were encountered during the investigation. However, due to the density of the encountered soils the dynamic sampler boreholes refused at depths of between 1.30m and 3.50m bgl. The presence of underground obstructions elsewhere at the site cannot be discounted.

### 4.6 Geochemical Analysis

In order to assess the general chemical quality of the strata encountered, samples of soils recovered from the exploratory holes were submitted for analysis for a range of potential contaminants selected on the basis of the findings of the desk study and supported by the joint National House Building Council (NHBC), Environment Agency



(EA) and Chartered Institute of Environmental Health (CIEH) publication, 'Guidance for the Safe Development of Housing on Land Affected by Contamination' (2008).

Soil samples were placed into plastic containers for general inorganic analysis and into amber jars for organic analysis. Samples were stored in temperature-controlled conditions from sampling until receipt at the laboratory from which time sample preparation and storage was determined by testing requirements and in line with the laboratory's protocols.

Twelve soil samples were submitted for analysis for a comprehensive suite of common zootoxic and phytotoxic elements based upon determinants listed within the above guidance. In addition, four samples were submitted for pesticide screening and two samples for waste acceptance and waste categorisation testing.

#### 4.7 Geotechnical Analysis

The results of geotechnical testing undertaken as part of the ground investigation are summarised in Table 4.4 with test results presented in Appendix D.

| Parameter                                     | River Terrace Deposits |
|-----------------------------------------------|------------------------|
| pH                                            | 5.4-6.1                |
| Water soluble sulphate (g/l)                  | <0.02                  |
| Natural Moisture Content (%)                  | 17-25                  |
| Liquid Limit (%)                              | 33-63                  |
| Plastic Limit (%)                             | 17-24                  |
| Plasticity Indices (%)                        | 16-39                  |
| Modified Plasticity Indices (%)               | 16-39                  |
| Particle Size Distribution                    |                        |
| Very coarse (%)                               | 0.0                    |
| Gravel (%)                                    | 0.0-65.70              |
| Sand (%)                                      | 20.3-61.1              |
| Particle Size Distribution Fines <0.063mm (%) | 3.3-48.0               |

**Table 4.4: Summary of Geotechnical Laboratory Test Results (River Terrace Deposits)**



## 5.0 ENGINEERING CONSIDERATIONS

Subsequent to intrusive investigation of the site and receipt of the laboratory results, the following interpretative assessments have been made with respect to engineering considerations.

### 5.1 Foundations

The ground conditions encountered in the exploratory holes comprised varying layers of sandy gravelly clays, clayey gravelly sands and clayey sandy gravels. Based on the results of the Atterberg Limit tests it is recommended that the cohesive soils of the River Terrace Deposits be classified en-masse as medium-volume change potential as defined by NHBC Standards, Chapter 4.2 and BRE Digest 240. The more granular parts of the River Terrace Deposits may be considered non shrinkable. Due to the variability in the ground conditions, it is recommended that foundation depths be calculated based on medium volume change potential soils. Therefore, remote from influence of trees a minimum foundation depth of 0.90m would be applicable within the natural soils. A minimum foundation width of 0.45m is recommended. Although not strictly applicable to the form of construction

Based on the ground and groundwater conditions encountered in the exploratory holes, it is inconclusive as to whether conventional strip, trench-fill or isolated pad and beam foundations would be suitable for the proposed structures. Shallow groundwater strikes were recorded in the boreholes and subsequent return monitoring visits which may result in foundation excavation instability and running sand. Further investigation by means of trial pits will be required prior to finalising the foundation solution to assess excavation stability and the rate and depth of water seepages. Where shallow excavations are unstable an alternative form of foundations such as piles may be required.

Where further investigation determines that shallow foundations would be constructible the following recommendation would apply. Based on the typical settlement parameters for the types of soil encountered, a maximum net allowable bearing capacity of 125kPa is applicable for trench, strip or isolated pad foundations up to 1.50m in width taken through any Topsoil, Made Ground, soft or loose zones, desiccated or disturbed soils and placed wholly into or onto the firm to very stiff gravelly sandy clays and the medium dense to very dense sandy gravels and sand and gravel of the River Terrace Deposits. Under the above loadings the settlements should remain within tolerable limits for the proposed scheme. Where foundations span between cohesive and granular horizons, nominal reinforcement will be required.

### 5.2 Excavations

Excavations within any shallow Made Ground should remain relatively stable in the short term. Longer deeper excavations within any deeper areas of Made Ground are likely to be prone to instability, particularly where left open for prolonged periods or where water is encountered, and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability. Pumping from sumps would also be required where water is encountered.

Both shallow and deep excavations within the River Terrace Deposits are likely to be prone to instability, particularly where left open for prolonged periods or where water is encountered. In such circumstances, excavations should be battered back to a temporary safe angle of repose, or suitable shoring techniques should be adopted to provide stability. Pumping from sumps would also be required where water is encountered.

It should be noted that shallow groundwater strikes were recorded in the boreholes which may result in foundation excavation instability and running sand. Further investigation by means of trial pits will be required prior to finalising the foundation solution. Where shallow excavations are unstable an alternative form of foundations such as piles may be required.



Ground works should always be designed in such a manner to avoid man entry into excavations. However, in the event that such works cannot be avoided or designed out, they should only be undertaken in accordance with a safe system of work, following an appropriate risk assessment and in accordance with any legislative requirements, e.g. Confined Spaces Regulations.

### **5.3 Floor Slabs**

Subject to further investigation remote from trees it may be feasible to construct ground bearing floor slabs upon the River Terrace Deposits.

### **5.4 Pavements**

The Transport and Road Research Laboratory Report (LR1132) entitled '*The Structural Design of Bituminous Roads*' (1984) cites an estimated equilibrium suction index of 4% for clays with Plasticity Indices of 30 and 60% for the sandy gravels of the River Terrace Deposits, under average construction conditions and a high groundwater level.

Based on the TRRL report, a preliminary design CBR value of 4% is recommended. Based on the geotechnical results, the near surface River Terrace Deposits should be considered as being non frost susceptible for pavement design purposes. It is recommended that during the next phase of ground investigation insitu CBR tests be undertaken along proposed access roads.

### **5.5 Sulphates**

Four pH and Sulphate tests were undertaken on the River Terrace Deposits. The results for the River Terrace Deposits corresponded to design class of DS-1 as defined within the BRE Special Digest 1 (2005). The pH analyses indicate the ACEC class to be AC-1s. It is recommended that a design class of DS-1 and an ACEC class of AC-1s be applied to all sub-surface concrete within this stratum.

### **5.6 Soakaways**

Soakage Testing did not form part of the remit of the investigation. Whilst some permeable granular soils have been encountered there is the potential for shallow groundwater which would affect storage capacity of any soakaways. It is recommended that some full scale BRE 365 soakage testing is included in any future phases of ground investigation.



## 6.0 ENVIRONMENTAL CONSIDERATIONS

A Generic Quantitative Risk Assessment (GQRA) was undertaken on the results of the chemical testing on the soil samples, the findings of which are presented in the following sections.

### 6.1 Environmental Risk Assessment

Based on a visual assessment of the soils encountered, in conjunction with the Desk Study and the proposed end use, twelve soil samples were submitted for a suite of commonly occurring contaminants including metals, metalloids, inorganic compounds, TPH, PAH and asbestos. A further two samples were schedule for waste categorisation and Waste Acceptance Criteria as outlined in Table 6.1 below.

| Location | Depth (m bgl) | Testing Suite |     |           |            | Stratum                |
|----------|---------------|---------------|-----|-----------|------------|------------------------|
|          |               | GESL/4        | WAC | Waste Cat | Pesticides |                        |
| WS01     | 0.30          | X             |     |           |            | Made Ground            |
| WS02     | 0.20          | X             |     |           | X          | Topsoil                |
| WS03     | 0.10          | X             |     |           |            | Topsoil                |
| WS03     | 0.50          | X             |     |           |            | River Terrace Deposits |
| WS05     | 0.10          | X             |     |           |            | Topsoil                |
| WS05     | 0.50          |               | X   | X         |            | River Terrace Deposits |
| WS06     | 0.10          | X             |     |           | X          | Topsoil                |
| WS07     | 0.80          | X             |     |           |            | River Terrace Deposits |
| WS08     | 0.10          | X             |     |           | X          | Topsoil                |
| WS09     | 0.10          |               | X   | X         |            | Topsoil                |
| WS09     | 0.80          | X             |     |           |            | River Terrace Deposits |
| WS10     | 0.10          | X             |     |           | X          | Topsoil                |
| WS11     | 0.20          | X             |     |           |            | Topsoil                |
| WS11     | 0.80          | X             |     |           |            | River Terrace Deposits |

**Table 6.1: Soils Submitted for Laboratory Analysis**

### 6.2 Soil Contamination vs. End Users

The presence of a possible contaminant does not necessarily imply that a site or area is contaminated or that there is any unacceptable risk to human health. A Preliminary Quantitative Risk Assessment has been undertaken in order to evaluate any unacceptable risks posed to human health with respect to the proposed redevelopment. It should be noted that this assessment is protective of the chronic long-term effects of contaminants, which is also likely to be protective of any possible immediate acute effects.

A quantitative risk assessment has been undertaken initially by comparing the results of the laboratory chemical testing of non-targeted shallow soils in each area against Soil Guideline Values (SGVs), DEFRA Category 4 Screening Levels (C4SLs) or Atkins' ATRISK<sup>soil</sup> Site Specific Screening Values (SSSVs) for a commercial end use. Any results that may have been greater than the guideline values or where there are no comparable values, the results have subsequently been compared against Land Quality Management Suitable 4 Use Levels (Subscription No. S4UL3453) (LQM S4UL) and Category 4 Screening Levels (C4SL). If any screening values are exceeded, further statistical assessment is required.

Benzo(a)pyrene has been used in the assessment as a surrogate marker for PAH contamination.

The results of the chemical testing have been compared directly with the generic assessment criteria for a commercial end use. All of the results were below the relevant thresholds for the samples tested whilst asbestos



was not identified in the samples screened.

The majority of pesticide concentrations were below laboratory detection limits with the exception of some results for DDD, DDE, DDT and Dieldrin however, the results were only marginally above the limit of detection and were well below the Environmental Protection Agency Regional Screening Levels for pesticides.

However, it should be noted that the farmyard area was not investigated at this stage and therefore, it is recommended that this is undertaken at a later date.

### 6.3 Soil Contamination vs. Adjacent land Users

Surrounding land uses were identified to mostly comprise residential properties and agricultural fields. No mobile contamination was found during the investigation and therefore, no significant risks to adjacent land users are considered to exist.

However, it is recommended that dust suppression techniques, e.g. damping down exposed soils, are employed during the demolition and construction phases on site in order to minimise the potential for airborne migration of specific hazards and to manage potential nuisance issues for adjacent land users.

### 6.4 Soil Contamination vs. Soft Landscaping

British Standard BS3882:2015 *Specification for topsoil and requirements for use* provides assessment criteria for a number of potentially phytotoxic contaminants in terms of new planting.

The results of the chemical analysis for determinants known to pose a potential phytotoxic risk to plant growth are summarised in Table 6.1 together with the respective adopted Generic Assessment Criteria (GAC) for plant growth. The compliance criteria set out in BS3882:2015 are pH dependent and thus the GAC used relate to the pH range measured on samples recovered from the site.

| Determinant | Phytotoxicity GAC (mg/kg) |            |         | GAC Exceedances |
|-------------|---------------------------|------------|---------|-----------------|
|             | pH <6.0                   | pH 6.0-7.0 | pH >7.0 |                 |
| Zinc        | 200                       | 200        | 300     | No              |
| Copper      | 100                       | 135        | 200     | No              |
| Nickel      | 60                        | 75         | 110     | No              |

**Table 6.1: Summary of Plant Phytotoxicity Assessment**

No exceedances for the above listed metals were identified and therefore, no remedial measures are considered necessary for the protection of plants.

### 6.5 Soil Contamination vs. Building Materials

The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UK Water Industry Research's (UKWIR) report reference 10/WM/03/21 (re-issued 2010). However, the guidance is not mandatory and there have been concerns raised by various industry technical associations regarding the document and the methodologies proposed. Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1. The results of the relevant chemical analyses did not indicate any elevated concentrations and therefore barrier pipe is unlikely to be required. It is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practicable in order to confirm the pipe material.





As a matter of good practice, and to maximise the protection to utilities, it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.

## 6.6 Ground Gases

Dual purpose gas and water monitoring standpipes were installed within all of the boreholes to depths of between 1.30 and 4.00m bgl. To date, the first two of six monitoring visits have been undertaken, Methane was recorded at 0.0% v/v, whilst carbon dioxide and oxygen have been recorded within the range of 0.0% v/v to 1.5% v/v and 18.8% v/v to 20.4% v/v respectively. A maximum VOC concentration of 0.0ppm has been recorded, whilst atmospheric pressure has been recorded between 983mb and 1019mb. No flows were recorded. Once the remaining visits have been completed, a monitoring report will be provided.

Where the groundwater level was higher than the response zone of the installed well, the gas results have been discounted as they are unlikely to be representative.

No onerous concentrations of ground gases have been identified during the initial two visits. Preliminary findings indicate that ground gas protection measures are unlikely to be required. However, a further four visits are planned and a ground gas assessment in the form of a letter will be issued on completion of the ground gas monitoring confirming the final ground gas assessment.

The results of the first round of ground gas monitoring is presented in Appendix C.

## 6.7 Waste Disposal

The following information is provided for preliminary guidance purposes, as different facilities or operators may have differing acceptance criteria and Waste Acceptance Criteria (WAC) analysis may be required to confirm the exact classification. In addition, if the intention is to retain excess spoil/arising on site for specific purposes, then these soils would not comprise waste, although this is subject to confirmation and relevant declaration under the Definition of Waste Code of Practice.

Where waste soil is being disposed to landfill it must first be classified as either Hazardous or Non-Hazardous. The classification is carried out in accordance with the Environment Agency's publication WM3 'Waste Classification-Guidance on the classification and assessment of waste'. Waste that is classified as Non-Hazardous in accordance with WM3 may be disposed without further testing to a Non-Hazardous landfill. Alternatively, once the waste soils have been identified, Waste Acceptance Criteria (WAC) testing can be undertaken to establish whether the material can be disposed to an Inert landfill, a subgroup of Non-Hazardous landfill. It should be noted that inert wastes are typically from a consistent source that meet a number of qualifying criteria, and thus Made Ground commonly will not meet the requirements to be disposed as Inert.

The laboratory results and WAC analysis for the samples of the recovered soils were assessed using the HazWasteOnline software which determines whether a generated waste is hazardous or non-hazardous based on standard laboratory analysis and are based on the chemical properties of the sample and therefore the appropriate indicative List of Waste code is '17 05 04 Soil and stones other those mentioned in 17 05 03\*'.

| Sample     | Geology                | HazWasteOnline        | WAC Results |           |           |
|------------|------------------------|-----------------------|-------------|-----------|-----------|
|            |                        | Classification Result | Inert       | SNRHW     | Hazardous |
| WS01 0.30m | Made Ground            | Non-Hazardous         | NT          | NT        | NT        |
| WS02 0.20m | Topsoil                | Non-Hazardous         | NT          | NT        | NT        |
| WS03 0.10m | Topsoil                | Non-Hazardous         | NT          | NT        | NT        |
| WS05 0.10m | Topsoil                | Non-Hazardous         | NT          | NT        | NT        |
| WS05 0.50m | River Terrace Deposits | Non-Hazardous         | Pass        | Fail (pH) | N/A       |





|            |                        |               |      |           |     |
|------------|------------------------|---------------|------|-----------|-----|
| WS06 0.10m | Topsoil                | Non-Hazardous | NT   | NT        | NT  |
| WS07 0.80m | River Terrace Deposits | Non-Hazardous | NT   | NT        | NT  |
| WS08 0.10m | Topsoil                | Non-Hazardous | NT   | NT        | NT  |
| WS09 0.10m | Topsoil                | Non-Hazardous | Pass | Fail (pH) | N/A |
| WS09 0.80m | River Terrace Deposits | Non-Hazardous | NT   | NT        | NT  |
| WS10 0.10m | Topsoil                | Non-Hazardous | NT   | NT        | NT  |
| WS11 0.20m | Topsoil                | Non-Hazardous | NT   | NT        | NT  |
| WS11 0.80m | River Terrace Deposits | Non-Hazardous | NT   | NT        | NT  |

NT- Not Tested

**Table 6.5 Summary of HazWasteOnline Assessment**

It must be noted that any waste classification assessment is indicative only and actual classification would depend on permit status of the final disposal facility. Once soils for disposal have been identified it is recommended that further testing of these specific soils be undertaken in order to confirm the above assessment.

In accordance with the CL:AIRE Definition of Waste Code of Practice (2011) materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded by the holder'.

The Code of Practice therefore allows soils to be reused on site where the following criteria are met:

- The re-use of the soils will not present an unacceptable or increased risk to controlled waters, the environment and human health;
- The soils are suitable both in terms of chemical and geotechnical properties for the intended use without prior treatment;
- Only the required volume is used and no more;
- There is a required use and a certainty of use not just a possibility.

In order to comply with the Code of Practice, a Materials Management Plan (MMP) that confirms the above criteria are met must be prepared. The MMP must be reviewed by a 'Qualified Person' who then issues a declaration to the Environment Agency. The MMP and declaration must be in place before soils are excavated and it cannot be applied retrospectively. Geo-Environmental can provide this service should it be required.

Where materials do not meet the required criteria, it may be possible to treat them under an environmental permit so that they may be re-used on site. In addition, where material is discarded as waste, it may still be possible to reuse the waste on site under a standard rules environmental permit or a U1 waste exemption. However, strict limits on the volumes that can be reused apply in these cases.

Under current legislation, where wastes are to be disposed of to landfill, they may, depending on their classification, require pre-treatment. Pre-treatment shall comprise a chemical, physical (including sorting), thermal or biological process. The pre-treatment is required to change the characteristics of the waste, reduce its volume, reduce its hazardous nature, and facilitate its handling and enhance its recovery.

Other materials disposed of from site as part of the development of the site may require disposal separately. All materials containing dangerous substances e.g. tar or bitumen, asbestos, mercury, hydrocarbons, PCBs and asbestos are likely to be classified as Hazardous Waste and therefore susceptible to the relevant legislative controls.

Furthermore, no asbestos was identified in the sample by the testing.



Should it be proposed to dispose of any of the material the results should be forwarded to the proposed receiving landfill for confirmation of this assessment as it is their decision on whether they will accept the waste material.



## 6.8 Revised Risk Assessment

Based on the findings of the investigation, a revised risk assessment has been prepared.

| Potential Source/media                                             | Potential Receptors | Potential Pathways         | Likelihood | Severity | Risk and Justification                                                                                                                                                                                          | Mitigation Measures                                                              | Residual Risk   |
|--------------------------------------------------------------------|---------------------|----------------------------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------|
| <b>Contaminants of Concern<br/>(Made Ground and Shallow Soils)</b> | End users           | Direct contact, Inhalation | Low        | Minor    | <b>Very Low</b><br>Soils were both chemically suitable and physically suitable.                                                                                                                                 | No mitigation measures required.                                                 | <b>Very low</b> |
|                                                                    | Soft Landscaping    | Root uptake                | Low        | Minor    | <b>Very Low</b><br>No evidence of harm to the existing soft landscaping on-site was identified. The laboratory results found not elevated concentrations that would affect soft landscaping.                    | No mitigation measures required.                                                 | <b>Very Low</b> |
|                                                                    | Adjacent land users | Direct contact, Inhalation | Unlikely   | Minor    | <b>Very Low</b><br>Mobile contaminants within soils were unlikely to pose a risk to adjacent land users. The laboratory results did not identify any mobile contaminants that would affect adjacent land users. | No mitigation measures required to protect adjacent land users.                  | <b>Very Low</b> |
|                                                                    | Water supply pipes  | Direct contact             | Low        | Minor    | <b>Very Low</b><br>Soils were chemically suitable for standard water supply pipes.                                                                                                                              | Potable water supply pipes laid within the natural soils are unlikely to require | <b>Very Low</b> |



| Potential Source/media            | Potential Receptors           | Potential Pathways              | Likelihood | Severity | Risk and Justification                                                                                                                     | Mitigation Measures                                                                                                           | Residual Risk          |
|-----------------------------------|-------------------------------|---------------------------------|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|
|                                   |                               |                                 |            |          |                                                                                                                                            | protection.<br><br>Confirmation of these assessments should be sought from the utility company.                               |                        |
|                                   | Buildings and infra-structure | Direct contact                  | Low        | Minor    | <b>Very Low</b><br>Foundations will be placed within potentially aggressive soils. Results classified the buried concrete as DS-1 (AC-1s). | It is recommended that buried concrete should be designed to Class DS-1 (AC-1s) within all soil types on-site.                | <b>Very Low</b>        |
|                                   | Groundwater                   | Vertical / Horizontal migration | Low        | Minor    | <b>Very Low</b><br>Although Groundwater was encountered; no mobile contamination encountered.                                              | No mitigation measures required.                                                                                              | <b>Very Low</b>        |
|                                   | Surface Water                 | Lateral Migration               | Unlikely   | Minor    | <b>Very Low</b><br>No surface water features were noted within the development area.                                                       | No surface water features noted on-site                                                                                       | <b>Very Low</b>        |
| Ground gases and vapours from any | End Users                     | Inhalation                      | Likely     | Medium   | <b>Moderate to Low</b><br>Future users may inhale potential ground gases.                                                                  | No elevated concentrations recorded during the first two visits. A final assessment will be made on completion of all visits. | <b>Moderate to Low</b> |



| Potential Source/media                           | Potential Receptors          | Potential Pathways                                           | Likelihood | Severity | Risk and Justification                                                                                                                                                                                          | Mitigation Measures                                                                                                                          | Residual Risk   |
|--------------------------------------------------|------------------------------|--------------------------------------------------------------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Made Ground and historic landfills to the south  | Buildings and infrastructure | Gas accumulation and potential explosion of flammable gases  | Unlikely   | Minor    | <b>Very Low</b><br>Extensive putrescible material sufficient for significant methane production were not encountered.                                                                                           | No elevated concentrations recorded during the first two visits. A final assessment will be made on completion of all visits.                | <b>Very Low</b> |
| Naturally occurring aggressive ground conditions | End users                    | Direct contact and inhalation/ingestion of soil derived dust | Unlikely   | Minor    | <b>Very Low</b><br>Soils were both chemically suitable and physically suitable.                                                                                                                                 | No mitigation measures required.                                                                                                             | <b>Very Low</b> |
|                                                  | Adjacent land users          | Direct contact                                               | Unlikely   | Minor    | <b>Very Low</b><br>Mobile contaminants within soils were unlikely to pose a risk to adjacent land users. The laboratory results did not identify any mobile contaminants that would affect adjacent land users. | No mitigation measures required.                                                                                                             | <b>Very low</b> |
|                                                  | Water Supply pipes           | Direct contact                                               | Unlikely   | Minor    | <b>Very Low</b><br>Soils were chemically suitable for standard water supply pipes.                                                                                                                              | Potable water supply pipes laid within the natural soils are unlikely to require protection.<br><br>Confirmation of these assessments should | <b>Very Low</b> |



| Potential Source/media | Potential Receptors          | Potential Pathways | Likelihood | Severity | Risk and Justification                                                                                                                     | Mitigation Measures                                                                                            | Residual Risk   |
|------------------------|------------------------------|--------------------|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------|
|                        |                              |                    |            |          |                                                                                                                                            | be sought from the utility company.                                                                            |                 |
|                        | Buildings and Infrastructure | Direct contact     | Likely     | Minor    | <b>Very Low</b><br>Foundations will be placed within potentially aggressive soils. Results classified the buried concrete as DS-1 (AC-1s). | It is recommended that buried concrete should be designed to Class DS-1 (AC-1s) within all soil types on-site. | <b>Very Low</b> |

Table 6.2: Revised Plausible Pollutant Linkages &amp; Qualitative Risk Assessment

### 7.0 Discovery Strategy

Whilst an intrusive investigation has been undertaken on the site, it remains possible that unexpected ground and/or groundwater conditions may be encountered during the process of construction.

Should previously undiscovered contamination or unforeseen ground conditions be encountered during construction by the ground workers, this must be reported to the Site Manager immediately in order that the Consultant is notified. Where deemed necessary, the Consultant shall attend the site to inspect the discovery and provide recommendations on the further actions required, if any. Where necessary the regulatory authority shall be informed. Post any additional investigation or laboratory testing the results and any proposed remedial measures shall be reported to the regulatory authority or other appropriate organisation for consent, before proceeding or implementing the remedial measures.

A copy of the discovery strategy must be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious, abnormal, unforeseen or contaminated ground and/or groundwater conditions they may encounter.

Depending on the type, nature and extent of any such 'discovery', it may be necessary to halt works in that location until such time as the assessment has been completed. This shall be reviewed on a 'discovery' specific basis and in conjunction with consultation with the client, other technical personnel and/or regulatory/approval organisations.

As a general guide, where such unexpected conditions are encountered the following approach is required as a minimum:

- All discoveries are to be reported to the Site Manager immediately and works at that location are to halt until further notice;
- The Site Manager is to report any such discoveries to the Client and the Consultant;
- Following notification from the Site Manager, the Consultant shall discuss the discovery with the Local Authority and/or other relevant parties and if considered necessary, arrange to meet on site to view the discovery;
- The Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site;
- Where remedial action is required, regulatory consultation and approval will be sought;
- A record will be produced by the Consultant and held on site (with copies held by the Consultant, Client and Local Authority/other relevant organisation), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

The process is shown below.



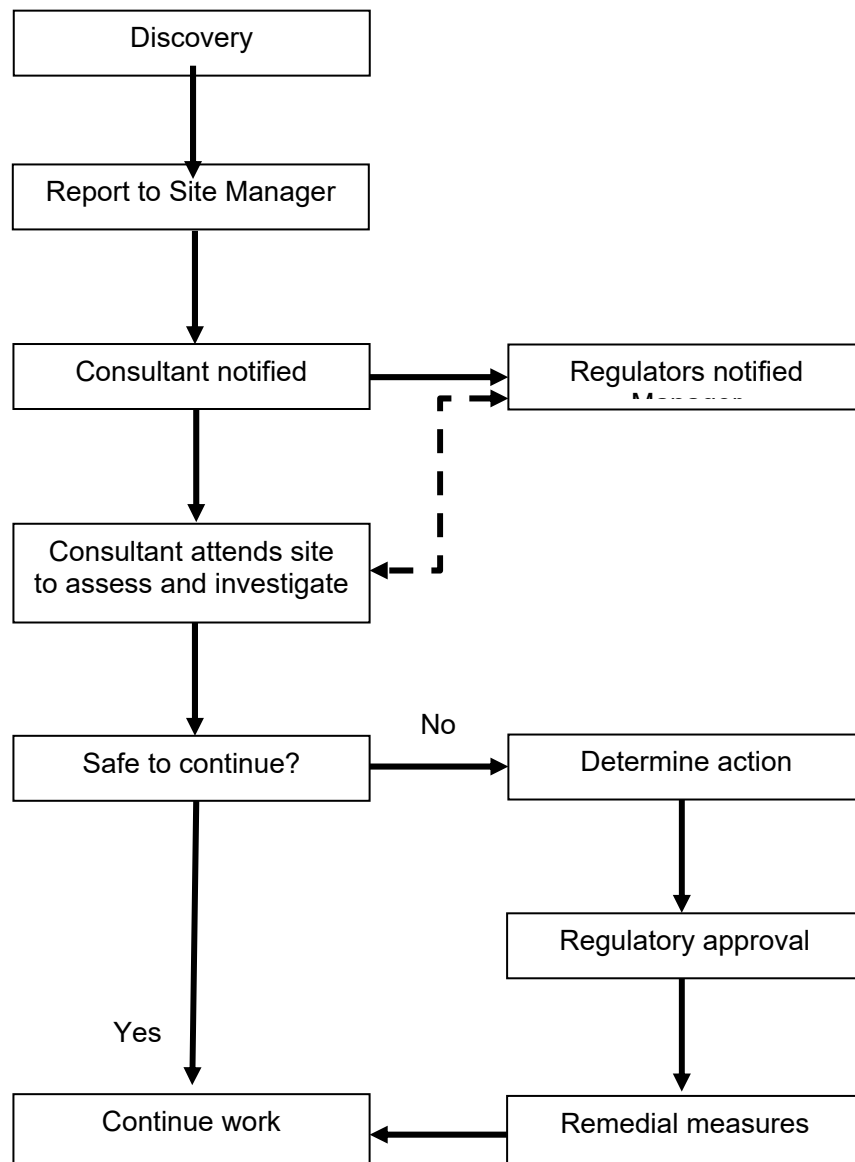


Chart 1 Discovery Strategy Process

### **Caveat**

*The data collected from the investigations have been used to provide an interpretation of the geo-environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained.*

*Geo-Environmental Service Limited takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.*

*Information contained in this report is intended for the use of the client and their agents, and Geo-Environmental Services Limited can take no responsibility for the use of this information by any third party for uses other than that described in this report.*

*It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. Such reservations have been indicated in the text where such conditions are considered to apply.*

*Geo-Environmental Services Limited does not indemnify any third parties such as the vendor against any dispute or claim arising from any finding or result of this investigation or any claim or dispute arising as a result of any decisions made thereof.*

## **FIGURE 1**

### **Site Location Plan**





|                       |                             |
|-----------------------|-----------------------------|
| <b>Project Title:</b> | <b>West End Road</b>        |
| <b>Location :</b>     | <b>Bursledon, Hampshire</b> |
| <b>Project No. :</b>  | <b>GE22135</b>              |
| <b>Client :</b>       |                             |

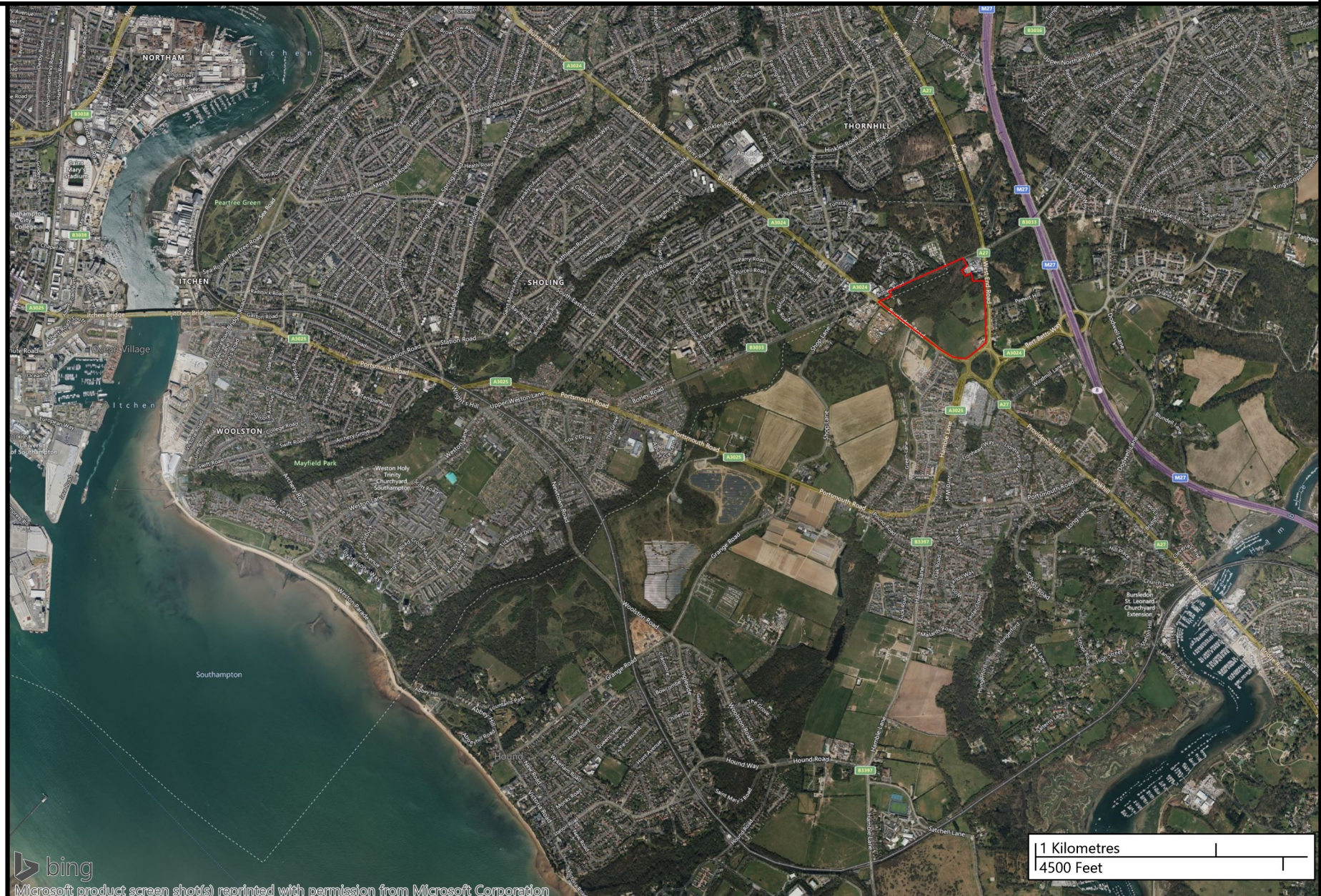
**Title :** Figure 1 - Site Location Plan  
**Scale:** 1:30000  
**Engineer:** JT



## Geo-Environmental

Legend Key

 Project Bounds - Project Bounds





## **FIGURE 2**

### **Site Investigation Plan**



Project Title: West End Road  
Location : Bursledon, Hampshire  
Project No. : GE22135  
Client : Wates Developments Ltd

Title : Figure 2 - Exploratory Hole Location Plan  
Scale: 1:2000  
Engineer: JT



Legend Key  
+ Locations By Type - WLS



**FIGURE 3**

**Proposed Development Plan**









## **APPENDIX A**

### **Desk Study Report**





**Geo-Environmental**

**DESK STUDY REPORT**  
**for the land at**  
**WEST END ROAD,**  
**BURSLEDON,**  
**HAMPSHIRE, SO31 8BN**  
**on behalf of**  
**WATES DEVELOPMENTS**



|                                                                                                                                                                                              |                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Report:                                                                                                                                                                                      | DESK STUDY REPORT                                                                                                                                                       |
| Site:                                                                                                                                                                                        | WEST END ROAD, BURSLEDON, HAMPSHIRE, SO31 8BN                                                                                                                           |
| Client:                                                                                                                                                                                      | WATES DEVELOPMENTS                                                                                                                                                      |
| Date:                                                                                                                                                                                        | 04/12/2023                                                                                                                                                              |
| Reference:                                                                                                                                                                                   | GE22135/DSR/DEC23                                                                                                                                                       |
| Version:                                                                                                                                                                                     | 1.0                                                                                                                                                                     |
| Prepared by:                                                                                                                                                                                 | <br>WILLIAM HUGHES MGeol (Hons), MSc, FGS<br>Senior Consultant Engineer                |
| Reviewed by:                                                                                                                                                                                 | <br>ANTHONY POTTER BSc (Hons), FGS<br>Senior Consultant Engineer                     |
| Authorised by:                                                                                                                                                                               | <br>JAMES GOODING CEnv, BSc (Hons), MSc, MIEEnvSc, FGS<br>Senior Consultant Engineer |
| <b>Geo-Environmental Services Limited</b><br>Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL<br>+44(0)1273 832972 <a href="http://www.gesl.net">www.gesl.net</a> |                                                                                                                                                                         |

## Amendment Record

| Revision ref. | Date       | Reasons for amendment | Author | Reviewed by | Authorised by |
|---------------|------------|-----------------------|--------|-------------|---------------|
| 1.0           | 04/12/2023 | Initial issue         | WH     | AP          | JG            |
|               |            |                       |        |             |               |
|               |            |                       |        |             |               |
|               |            |                       |        |             |               |
|               |            |                       |        |             |               |

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## 1.0 INTRODUCTION

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Wates Developments (the Client) to undertake a Phase 1 assessment of the geotechnical and geo-environmental factors pertaining to the proposed redevelopment of land at West End Road, Bursledon, Hampshire, SO31 8BN (herein referred to as 'the site'). The site's location is presented in Figure 1.

### 1.1 Proposed Development

The proposed development is understood to comprise a commercial development with access roads, parking, and associated infrastructure. A proposed development plan is shown in Figure 2.

### 1.2 Objectives

The investigation was to comprise a desk study of geotechnical and geo-environmental factors pertaining to the site, including a review of available historical maps, site walkover and an examination of other available sources of readily available geo-environmental information.

A Preliminary Risk Assessment (PRA) was to be undertaken as part of the desk study in accordance with Land Contamination Risk Management (LCRM). The objective of the risk assessment was to evaluate plausible pollutant linkages with respect to the proposed development, adjacent land uses, and the wider environment, in the context of planning, immediate liabilities under the Environmental Protection Act 1990, and risks posed to Controlled Waters under the Water Resources Act 1991.

### 1.3 Standards

Where practicable, the desk study was undertaken in accordance with the following documents and guidance:

- National Planning Policy Framework – July 2021;
- Planning Policy Statement 23 – Planning and Pollution Control, November 2004;
- Land Contamination Risk Management (LCRM), Environment Agency, updated July 2023;
- Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004 (withdrawn 2020);
- Environment Agency Guidance on Requirements for Land Contamination Reports, Version 1 dated July 2005;
- BS10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites - Code of Practice, BSI 2017;
- BS5930: 2015+A1:2020 - Code of Practice for Site Investigations, BSI 2020;
- EN ISO 14688 Geotechnical Investigation and Testing Part 1-2002 and Part 2-2004;
- BS1377: 1990 - Soils for Civil Engineering Purposes, BSI1990;
- NHBC Standards Chapter 4.1 Land Quality - Managing Ground Conditions;
- NHBC Standards Chapter 4.2 Building Near Trees;
- CIRIA C665 – Assessing risks posed by hazardous ground gases to buildings (2007);
- NHBC 10627-R01(04) – Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present (2007);
- BS8485:2015+A1:2019 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings;
- Department of Environment - Industry Profiles (1995 - 1996).

#### **1.4 Conditions**

The desk study data obtained for the site is assumed to be factually correct and up to date at the point of their acquisition. No liability is taken for any omissions or inaccuracies in the data acquired. It should also be noted that changes to the desk study data may occur following the production of this report, Geo-Environmental accepts no liability where this subsequently affects the assessment presented herein.

The information collected from the desk study and site walkover has been used to provide an interpretation of the geotechnical and environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that have either not been revealed in the available records or that occur between or under points of any physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative, and liability cannot be accepted for its accuracy.

It must be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. The absence of asbestos within soil samples analysed does not guarantee the absence of asbestos within buildings, within or bonded to concrete, as discrete burials, or within the soil mass elsewhere within a site. This report must not be taken as, or assumed to imply any guarantee that a site is free of hazardous or potentially contaminative materials.

Information contained in this report is intended for the use of the Client, and Geo-Environmental can take no responsibility for the use of this information by any party for uses other than that described in this report. Geo-Environmental makes no warranty or representation whatsoever expressed or implied with respect to the use of this information by any third party. Geo-Environmental does not indemnify the Client or any third parties against any dispute or claim arising from any finding or other result of this investigation report or any consequential losses.

This report remains the property of Geo-Environmental and the Client has no rights to, or reliance upon this document or supporting documents until such time as payment has been received in full for all invoices for works undertaken in connection with this report.

Assessment criteria or other parameters developed for the evaluation of contamination on this site are based on a number of assumptions regarding exposure and toxicology. Exposure to contaminants and levels of adverse effects may therefore vary. Whilst reasonable care and expertise has been employed in the development of such criteria, no liability is accepted in this respect. Other criteria or guidance on the development of assessment criteria may be published in the future and no liability is accepted in this respect.





## 2.0 DESK STUDY

The findings of the Phase I desk study are presented in the following section. A copy of the historical maps and other information obtained as part of the desk study are presented in Appendix A. Comments made in the following section regarding possible ground conditions on the site are based purely on the desk study and associated site walkover.

### 2.1 Site Description

The site was an irregular shaped plot of land located to the west of West End Road and north of Windhover Roundabout, Bursledon. The site was accessed via a locked gate off West End Road which led down a track to a farmyard in the southeastern corner of the site. The farmyard comprised a barn, stables and shipping containers. At the time of the ground investigation a portion of the farmyard was fenced off for use as seasonal Christmas tree sales. Furthermore, the site was also noted to be in use as a dog training facility. The northern portion of the site comprised additional fields and dense woodland.

The remainder of the site comprised open fields of grass which sloped down to the southwest. At the time of the ground in the northwestern portion of the site was soft and often waterlogged.

The land to the north of the site comprised residential properties, a caravan sales centre, a car dealership, an ambulance station and woodland. The land to the west comprised open fields with residential development to the southwest. A roundabout was present to the south of the site, beyond which there was a supermarket. The land east of the site comprised open fields and residential housing, beyond which lay the M27.

### 2.2 Geology

With reference to British Geological Survey (BGS) mapping, the geology of the site was anticipated to comprise superficial deposits comprising River Terrace Deposits to the west and east of the site, no superficial deposits were recorded to the centre. The bedrock comprised the Wittering Formation. Given the previous agricultural land use and surrounding developed land there remains the possibility that there may be areas of reworked, disturbed or Made Ground across the site. Mapping indicates area of Made Ground 84m to southeast and 93m to the northeast of the site.

BS5930:2015+A1:2020 defines **Made Ground** as anthropogenic ground in which the material has been placed without engineering control and/or manufactured by man in some way, such as through crushing or washing, or arising from an industrial process. Great variations in material type, thickness and degree of compaction invariably occur and there can be deleterious or harmful matter, as well as potentially methanogenic organic material. In addition, where identified it is not uncommon for asbestos to be present within Made Ground soils.

The rivers of the south-east of England, including The River Thames and its tributaries, have been subject to at least three changes of level since Pleistocene times. One result has been the formation of a complex series of **River Terrace Deposits**. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sands and gravels of roughly bedded flint or chert gravels varying degrees of coarseness.

The **Wittering Formation** is the lowest unit of the Bracklesham Group and was deposited by intertidal sedimentation during the Eocene. It comprises mainly brown grey laminated sandy clays and clayey sands with beds of green to brown glauconitic sands. Lignite beds may be encountered towards the base of the formation.



One BGS bore hole log was recorded on the south side of the site. The log recorded 'sandy gravelly silt' Made Ground to 0.50m, 'orangish brown to reddish brown sandy clay to silty clay' of the Wittering Formation to 4.90m. The 'grey becoming brownish grey silty clay' of the London Clay Formation was described to 10.00m. A further 15No. boreholes were identified within c.100m of the site. Sand was encountered between the Wittering Formation and the London Clay Formation up to c.2.0m in thickness, and the base of the Wittering Formation varied to a maximum of 9.90m bgl.

### 2.3 Hydrogeology

With reference to the Groundsure dataset, the River Terrace Deposits and Wittering Formation were both identified to be Secondary Undifferentiated Aquifers.

**Secondary Undifferentiated** aquifer is the assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

No Source Protection Zones (SPZ) were identified within 1km of the site boundary.

No groundwater abstractions were identified within a radius of 1km of the site boundary.

The Groundsure data set identified 3No. discharge consents to land/soakaway within a radius of 1km from the site:

- 362m N, Dumbleton Close, SO19 6AP. Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT – NOT WATER COMPANY. Permit Number: P05702. 3No. permit versions (1: 03/05/95 – 14/10/01. 2: 15/10/01 – 20/12/12. 3: 21/12/12 – Present). Status: VARIED UNDER EPR 2010.

The centre of the site was indicated to be located in an area of negligible risk from groundwater flooding. The north eastern and south western portions of the site were identified as low risk.

Both the Wittering Formation and the River Terrace Deposits were classified as being medium vulnerability of groundwater from surface contaminants.

### 2.4 Hydrology

With reference to the Groundsure dataset, the nearest surface water features comprised a stream/ditch ending in a pond located 208m east of the site.

No surface water abstractions were identified within a 1km radius of the site boundary.

No discharge consents to surface water were identified within a 1km radius of the site boundary.

The Groundsure dataset identified no Pollution Incidents (EA) to controlled waters within a radius of 1km of the site boundary.

Generally, the site was not shown to be at particular risk of surface water flooding. However, a narrow strip running through from the south west boundary towards the centre of the site and the western corner of the site was indicated to be at risk of surface water flooding with a maximum risk of 1 in 30 year return period with depths greater than 1.0m.



The site was not recorded within an area at risk of flooding from rivers and the sea.

## 2.5 Sensitive Land Uses

A search was made of environmentally sensitive areas, including areas of green belt, scenic or natural beauty, parks, reserves, nitrate zones, protected conservation and scientific areas.

The site was located within a Nitrate Vulnerable Zones (NVZ):

- On site. Hamble Estuary Eutrophic NVZ (TraC). Eutrophic Water. NVZ ID: 3. Status: Existing.

No Ramsar sites, Special Areas of Conservation (SAC), Special Protection Areas (SPA), National Nature Reserves (NNR) were identified within 1km of the site boundary. A single Local Nature Reserve (LNR) was noted:

- 7m N associated with Netley Common.

## 2.6 Environmental Data

Searches of other various environmental databases were made as part of the desk study, including air pollution control sites, Part IIA contaminated land, Integrated Pollution Control (IPC) and Integrated Pollution Prevention and Control (IPPC) site, registered radioactive substances, Control of Major Accident Hazard (COMAH) sites, explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS) sites, planning permissions for sites involving hazardous substances, contemporary trade directories and fuel station registers.

Two Licensed Pollutant Releases was recorded within 1km of the site, details of which are provide below:

- 362m S. Tesco, Hamble Lane, SO31 8GN; Process: Unloading of Petrol into Storage at Service Stations; Status: Current Permit; Permit Type: Part B; Enforcement: No Enforcements Notified.
- 408m W. Sholing SF Connect, 430 Bursledon Road, SO19 8NG; Process: Unloading of Petrol into Storage at Service Stations; Status: Current Permit; Permit Type: Part B; Enforcement: No Enforcements Notified.

No Integrated Pollution Control Sites were identified within 1km of the site from the Groundsure dataset.

Fifty one historical industrial land use entries were identified by the Groundsure dataset within 500m of the site. These were grouped into thirty seven entries by Groundsure were the same feature has multiple entries. Fourteen historical industrial land use entries were identified within 500m of the site, details of which are provided below:

- 16m W. Ambulance station. 1987 – 1993.
- 21m SW. Unspecified heap. 1967.
- 272m NE. Unspecified ground workings. 1908 – 1942.
- 295m W. Unspecified works. 1967.
- 319m W. Unspecified heap. 1908.
- 346m SE. Windmill. 1895.
- 367m SE. Corn windmill. 1868.
- 388m SE. Disused windmill. 1977 – 1993.
- 388m SE. Unspecified tank. 1967.
- 395m SE. Windmill. 1957
- 396m SE. Unspecified tank. 1908 – 1942.
- 397m SE. Unspecified/Old windmill 1898 – 1957.



## Desk Study Report

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- 400m SE. Old windmill. 1908.
- 417m SE. Unspecified tank. 1942.

A further twenty three entries relate to shallow ground workings, further details of which can be found in Section 2.7.

One historical tank was identified within 500m of the site, details of which are provided below:

- 214m E. Unspecified tank. 1965.

Two records of historic garages were identified within 500m of the site, details of which are provided below:

- 37 - 42m W. Garage. 1965 – 1997.
- 380 – 388m W. Garage. 1965 – 1989.

One historical and three recent petrol stations were identified within 500m of this site details of which are below:

- 1 – 3m NE. Filling station. 1970. Historical.
- 70m W. Obsolete company. Bursledon road, SO19 8NJ. LPG: N/A. Status: Obsolete.
- 346m S. Tesco Extra. Hamble Lane, SO31 8GN. LPG: No. Status: Open.
- 366m W. BP. 430 Bursledon Road, SO19 8NG. LPG: Yes. Status: Open.

The petrol filling stations and garage within 100m of the site boundary are considered to represent a potential risk of contamination to the site. The remaining land uses listed in this section are located a sufficient distance from the site and/or have a low contamination potential so as to have been unlikely to have a detrimental effect on the site and, as such, have not been considered further within the assessment.

Seventeen historical energy features were noted within 500m, features within 250m of this site details of which are below:

- 17m NW. Gas governor (1987)
- 142m W. Electricity Sub Station (1970)
- 142m W. Electricity Sub Station (1970)
- 143m W. Electricity Sub Station (1973)
- 143m W. Electricity Sub Station (1973)
- 159m NW. Electricity Sub Station (1996)
- 159m NW. Electricity Sub Station (1993)
- 191m NE. Electricity Sub Station (1983)
- 192m NE. Electricity Sub Station (1993)
- 249m S. Electricity Sub Station (1975)

No radioactive sites, COMAH, explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS) sites and planning permissions for sites involving hazardous substances registers.

### 2.7 Geotechnical Data

The site was recorded as being located in an area which might not be affected by past, current or future coal mining.



National databases for a number of geological hazards have been compiled by the BGS, and a summary of the hazard data pertaining to the site is presented in Table 2.1.

| Hazard                     | Hazard Rating             |
|----------------------------|---------------------------|
| Collapsible ground         | Very Low                  |
| Compressible ground        | Negligible                |
| Ground dissolution         | Negligible                |
| Landslide                  | Very Low                  |
| Running sand               | Very Low                  |
| Shrink swell clays         | Moderate                  |
| BGS Recorded Mineral Sites | None recorded within 500m |

**Table 2.1 Summary of BGS Geological Hazards**

Twenty one records of surface ground workings were recorded within 500m of the site, details of which are presented in Table 2.2.

| Location      | Land Use        | Year of Mapping | Number of Entries |
|---------------|-----------------|-----------------|-------------------|
| 13 – 18m SW   | Gravel Pit      | 1895 – 1908     | 5                 |
| 17 – 24m SW   | Old Gravel Pit  | 1942 - 1957     | 4                 |
| 21m SW        | Unspecified Pit | 1868            | 1                 |
| 206 – 208m NE | Pond            | 1908 - 1987     | 8                 |
| 214 – 215m W  | Pond            | 1908            | 3                 |

**Table 2.2 Summary of Surface Ground Workings**

Four mineral workings records were identified within 500m of the site, summarised below:

- 48m SW. Windhover Gravel Pit. Commodity: Sand & Gravel. Type: Surface mineral working. Status: Ceased.
- 371m W. Netley Common Gravel Pit. Commodity: Sand & Gravel. Type: Surface mineral working. Status: Ceased.
- 393m N. Dumbleton's Copse Gravel Pit. Commodity: Sand & Gravel. Type: Surface mineral working. Status: Ceased.
- 446m W. Netley Common Gravel Pit. Commodity: Sand & Gravel. Type: Surface mineral working. Status: Ceased.

No natural cavities were recorded within 500m of the site.

## 2.8 Landfill and Ground Workings

A search of BGS recorded landfill sites, IPC registered waste sites, licensed waste management facilities, local authority recorded landfill sites, other registered landfill sites, waste transfer stations, and other waste treatment or disposal sites was undertaken as part of the desk study. Such sites may form an artificial source of ground gases, such as carbon dioxide and methane, where wastes are buried or disposed of to landfill.

Four Historical landfill (EA/NRW records) site were identified within 500m of the site boundary, details of which are below:



- 25m S. Car Boot Sale Site, Bursledon Road. Waste Licence: -. Site Reference: FEA28. Waste Type: Household. Licence Issue: -; Licence Surrender: -. Licence Holder: -. First Recorded: -; Last Recorded: -.
- 40m SW. Land adjacent to Bursledon Road, Hightown. Waste Licence: -. Site Reference: FEA20. Waste Type: Household. Licence Issue: -; Licence Surrender: -. Licence Holder: -. First Recorded: -; Last Recorded: -.
- 358m N. Kanes Hill Gravel Pit, Pinewood Park. Waste Licence: Yes. Site Reference: 9/7, FEA5. Waste Type: Inert. Licence Issue: 19/04/1977; Licence Surrender: -. Licence Holder: A J Mills. First Recorded: 01/06/1947; Last Recorded: -.
- 453m SE. Providence Hill, Bursledon. Waste Licence: -. Site Reference: FEA31, EAST 7. Waste Type: Inert. Licence Issue: -; Licence Surrender: -. Licence Holder: -. First Recorded: -; Last Recorded: -.

Seven waste exemptions were recorded within 500m of the site details of which are outlined within Table 2.3.

| Location | Site                                     | Category                 | Sub-Category  | Description                                              |
|----------|------------------------------------------|--------------------------|---------------|----------------------------------------------------------|
| 44m W    | Not supplied                             | Storing waste exemption  | Not on a farm | Storage of waste in a secure place                       |
| 44m W    | Not supplied                             | Using waste exemption    | Not on a farm | Use of waste in construction                             |
| 176m E   | Fir Tree Farm, Pewitt, SO31 8BL          | Using waste exemption    | On a farm     | Use of waste in construction                             |
| 228m E   | Coles Yard, Botley Road, SO19 ONL        | Using waste exemption    | Not on a farm | Use of waste in construction                             |
| 257m W   | Shop Lane, SO19 0QS                      | Using waste exemption    | Not on a farm | Use of waste in construction                             |
| 367m S   | Beaufort House, Hamble Lane, SO31 8BR    | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| 417m SE  | Foreman Homes, Providence Hill, SO31 8JZ | Using waste exemption    | Not on a farm | Use of waste in construction                             |

**Table 2.3 Summary of Waste Exemptions within 500m**

These waste exemptions are not expected to have resulted in an adverse effect on the site.

## 2.9 Radon

The Groundsure data report indicated that the site lies within a lower probability radon area (where <1% of homes are estimated to be at or above the Action Level). No radon protection measures are reportedly necessary in the construction of new dwellings or extensions.

## 2.10 Geochemistry

Data obtained as part of the Groundsure Report provides details on the estimated soil chemistry for natural soils in the vicinity of the site. The estimated quality of natural soils beneath the subject site is presented in Table 2.4.

| Determinand | Estimated Concentration (mg/kg) |
|-------------|---------------------------------|
| Arsenic     | 15                              |
| Cadmium     | 1.8                             |
| Chromium    | 60 – 120                        |
| Lead        | 100                             |
| Nickel      | 15 – 30                         |

**Table 2.4 Summary of Site Geochemistry**



The natural background concentrations were below respective published Soil Guideline Values, Generic Assessment Criteria and Category 4 Screening Levels for the protection of human health under a commercial land use.

However, these values are not necessarily representative of the site's soil chemistry, nor do they account for a site's historic uses, nor the presence or condition of any Made Ground soils. Furthermore, SGVs and GAC are dependent on pH and soil organic matter content. Therefore, concentrations of specific determinands and the utilised SGV/GAC cannot be determined without site specific investigation and analysis.

## 2.11 Historical Data

A summary of site history dating back to 1867 is presented in Table 2.5 and has been determined through examination of historical maps obtained as part of the desk study.

| Date                       | On Site                                                                                                                             | Off Site                                                                                                                                                                                                                                                          |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1867<br>(1:2,500)          | The majority of the site comprised a field of rough pasture bound by hedgerows. The eastern portion of the site contained woodland. | The site was shown to be surrounded by an open field network and several roads. An <i>Old Gravel Pit</i> was mapped within c.50m south west of the site.                                                                                                          |
| 1868<br>(1:2,500)          | Insufficient mapping.                                                                                                               | The area north east of the site was labelled <i>Burstledon Common</i> .                                                                                                                                                                                           |
| 1869<br>(1:2,500)          | Insufficient mapping.                                                                                                               | Insufficient mapping.                                                                                                                                                                                                                                             |
| 1868 – 1869<br>(1:10,560)] | The south eastern half of the site was mapped rough pasture, and the north western half as woodland, bisected by a footpath.        | The surrounding area comprised a mixture of open field networks and woodland. The area north west of the site was labelled as <i>Netley Common</i> .                                                                                                              |
| 1895 - 1896<br>(1:10,560)  | The site was mapped as woodland, bisected by two footpaths.                                                                         | <i>Brick Fields</i> and <i>Old Gravel Pits</i> were mapped from c.800m north east and south. A <i>Gravel Pit</i> was mapped c.750m west of the site. The previously noted <i>Old Gravel Pit</i> south west of the site had been relabelled as <i>Gravel Pit</i> . |
| 1897<br>(1:2,500)          | No significant changes noted.                                                                                                       | No significant changes noted.                                                                                                                                                                                                                                     |
| 1908<br>(1:10,560)         | No significant changes noted.                                                                                                       | Several residential properties were spread over the area. Beyond c.750m <i>Hedge End</i> was mapped.                                                                                                                                                              |
| 1909<br>(1:2,500)          | No significant changes noted.                                                                                                       | The <i>Gravel Pit</i> c.750m to the west was shown to have expanded westwards.                                                                                                                                                                                    |
| 1938 - 1942<br>(1:10,560)  | The site was shown as rough pasture.                                                                                                | The <i>Gravel Pit</i> south west of the site had been relabelled as <i>Old Gravel Pit</i> . Beyond c.750m south west two <i>Silo Towers</i> were mapped. Residential development, labelled <i>Hightown</i> , had occurred west of the site from c.50m.            |
| 1957<br>(1:10,560)         | The site was shown as an open field bisected by a single footpath.                                                                  | A single <i>Works</i> was mapped c.750m north east of the site. Further residential development had occurred from c.750m north west, labelled as <i>Thorn Hill</i> . Residential development had occurred within c.50m east of the site.                          |





| Date                     | On Site                                                                                                                                                           | Off Site                                                                                                                                                                                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1964 - 1965<br>(1:2,500) | No significant changes noted.                                                                                                                                     | Buildings were mapped immediately north east of the site. The <i>Old Gravel Pit</i> within c.50m south west of the site was no longer mapped. C.250m north west <i>Hightown Secondary School</i> and <i>Hightown Primary &amp; Infants School</i> were mapped. |
| 1967<br>(1:10,560)       | The northern section of the site had been subdivided into several plots and was partially wooded.                                                                 | Further residential development had occurred from c.750m south of the site.                                                                                                                                                                                    |
| 1970<br>(1:1,250)        | The south eastern half of the site was labelled as a <i>Smallholding</i> , with two buildings in the south east corner of the plot.                               | One of the buildings immediately north east of the site (within 100m) was labelled as a <i>Filling Station</i> .                                                                                                                                               |
| 1970 - 1975<br>(1:2,500) | No significant changes noted.                                                                                                                                     | No significant changes noted.                                                                                                                                                                                                                                  |
| 1974<br>(1:1,250)        | No significant changes noted.                                                                                                                                     | No significant changes noted. Incomplete mapping.                                                                                                                                                                                                              |
| 1978<br>(1:10,000)       | No significant changes noted.                                                                                                                                     | Further development had occurred from c.500m south of the site. The <i>M27</i> was mapped within c.500m east of the site, running north to south.                                                                                                              |
| 1979<br>(1:1,250)        | No significant changes noted.                                                                                                                                     | No significant changes noted. Incomplete mapping.                                                                                                                                                                                                              |
| 1987<br>(1:10,000)       | The entire site was labelled as a <i>Smallholding</i> . The south eastern third of the site was an open field, with the remainder of the site as sparse woodland. | A <i>Superstore</i> was mapped c.150m south of the site.                                                                                                                                                                                                       |
| 1993<br>(1:1,250)        | No significant changes noted.                                                                                                                                     | Development was noted within c.50m north west of the site with additional buildings associated with the two schools.                                                                                                                                           |
| 1993<br>(1:10,000)       | No significant changes noted.                                                                                                                                     | No significant changes noted.                                                                                                                                                                                                                                  |
| 2001<br>(1:10,000)       | No significant changes noted.                                                                                                                                     | No significant changes noted.                                                                                                                                                                                                                                  |
| 2003<br>(1:1,250)        | No significant changes noted.                                                                                                                                     | An <i>Ambulance Station</i> was located within c.50m north of the site.                                                                                                                                                                                        |
| 2010<br>(1:10,000)       | No significant changes noted.                                                                                                                                     | No significant changes noted.                                                                                                                                                                                                                                  |
| 2023<br>(1:10,000)       | No significant changes noted.                                                                                                                                     | No significant changes noted.                                                                                                                                                                                                                                  |

Table 2.5 Summary of Site History

The site was shown from the historical mapping to comprise a mixture of open fields and woodland, with the extent of each varying throughout the course of the historical mapping. From c.1987 the site was approximately one third open field and two thirds woodland.

The surrounding area initially comprised open fields and woodland. The surrounding area became more developed over time with the exception of the land south west of the site which remained largely open fields. The majority of the development was residential with some commercial structures. A filling station was mapped immediately north



east of the site.

### **2.12 Previous Ground Investigations**

Geo-Environmental is not aware of any previous ground investigations undertaken within the boundary of the site.

### **2.13 Asbestos**

As at all sites, consideration for the potential for asbestos to be present within the shallow soils or entrained within or below any concrete on the site should be given when designing any site investigations, therefore asbestos identification should be included within the suite of testing of contaminants on site. The absence of asbestos in soil samples analysed is not a guarantee of the absence of asbestos elsewhere on a site.

### **2.14 Potential Contamination**

The site was shown from the historical mapping to comprise a mixture of open fields and woodland with a small number of buildings present in the south eastern corner. The wider area became developed overtime with the M27 within c.500m east of the site. A petrol filling station was identified c.50m north east of the site. A farm/large house was present to the east. Roads were mapped running along the site boundaries.

A review of the land uses covered by the National House Building Council (NHBC), Environment Agency (EA) and Chartered Institute of Environmental Health (CIEH) publication 'Guidance for the Safe Development of Housing on Land Affected by Contamination' (2008), which provides a summary of industrial profiles (1995 - 1996) published by the former Department of the Environment (DoE) (now part of the Department for Environment, Food and Rural Affairs [DEFRA]) has been undertaken. However, no profiles relating to the previous and current land use of the site have been identified.

There is the possibility that limited areas of Made Ground exist in some areas of the site associated with the buildings identified on the southern eastern corner. Made Ground or shallow soils may contain contaminants of concern, including metals, non-metal, inorganic pollutants, organic pollutants (including such as poly-aromatic hydrocarbons (PAH), petroleum hydrocarbons/oils) and asbestos (potentially introduced in any Made Ground if present).

The off-site petrol filling station (PFS) is relatively modern and therefore like to have effect environmental controls against spillage and leakages. Should fuels be leaking from the PFS, any impact to the subject site is likely to be limited by the lateral distance from the PFS and at depth.

In addition, it is possible that the surrounding land uses may have resulted in the deposition of airborne contaminants on the surface and shallow soils on site including heavy metals, organic pollutants such as polyaromatic hydrocarbons (PAH), petroleum hydrocarbons/oils, inorganic compounds.

### **2.15 Ground Gas Summary**

The two historic landfills c.25m and c.40m south and south west of the site are potential off-site sources of ground gas. Although these landfills are recorded as receiving inert waste, putrescible waste were often historically deposited in such sites. Three gravel pits were identified within 25m south west of the site which may have been infilled with putrescible materials. A period of ground gas monitoring in the site would be required.

The desk study for the site has not identified any potential sources of ground gases on the subject site itself with the exception of the possibility of limited Made Ground associated with the buildings on site. If Made Ground was



identified and contained a significant amount of organic matter or organic contamination, it could have the potential to represent a source of ground gases/vapours.



### 3.0 PRELIMINARY ASSESSMENT

Based on the findings of the desk study, the following sections summarise the anticipated geotechnical and environmental factors likely to impact the site.

#### 3.1 Geotechnical Risk Assessment

##### 3.1.1 Potential Geotechnical Issues

The following factors that might impact the geotechnical condition of the site were identified as part of the desk study.

Hazards identified as being potentially present on site could have implications for foundation design and construction. A summary of commonly occurring geotechnical hazards is given in the following table:

| Geotechnical Hazard                               | Probability | Engineering Implications                                                                                                                                                                                                 |
|---------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lateral changes in ground conditions              | Likely      | There are likely to be variations in the composition of the River Terrace Deposits and the Wittering Formation which could have implications for the foundation design.                                                  |
| Shrinkable soils                                  | Likely      | The River Terrace Deposits and Wittering Formation are likely to contain shrinkable horizons and foundations could require deepening within the zone of moisture demand of trees (current, proposed or recently felled). |
| Significant depths of Made Ground                 | Low         | The site has only had limited development in the form of buildings associated with the smallholding.                                                                                                                     |
| Aggressive chemical ground conditions (sulphates) | Low         | The possible presence of aggressive chemical ground conditions within the underlying geology may affect foundation design and construction.                                                                              |
| Shallow Groundwater                               | Likely      | There is the potential for shallow groundwater within both the River Terrace Deposits and Wittering Formation.                                                                                                           |
| Viability of Soakaways                            | Possible    | Soakaways may be feasible within the River Terrace Deposits and Wittering Formation if granular.                                                                                                                         |
| Potential for slope stability issues              | Unlikely    | The site was relatively flat and level.                                                                                                                                                                                  |

**Table 3.1 Possible Geotechnical Hazards**

#### 3.2 Preliminary Environmental Conceptual Site Model & Risk Assessment

##### 3.2.1 Methodology

A Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) has been prepared in accordance with Land Contamination Risk Management (LCRM) based on information obtained as part of the desk study. Possible risks associated with potential sources of contamination and sensitive receptors identified have been assessed following a source-pathway-receptor (SPR) approach in accordance with current UK protocols. The Conceptual Site Model is shown in Figure 3.

A risk may only exist where a plausible SPR linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to cause harm. Under the statutory definition, "Contamination" may only strictly exist



where contaminants pose a risk of harm to a receptor. Risk may be defined as a function of the likelihood and severity of any adverse effects arising from contamination. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks is derived and their definitions are presented in Tables 3.2 & 3.3 below.



|             |                 | Consequence       |                   |                   |                   |
|-------------|-----------------|-------------------|-------------------|-------------------|-------------------|
|             |                 | Severe            | Medium            | Mild              | Minor             |
| Probability | High Likelihood | Very high risk    | High risk         | Moderate risk     | Moderate/low risk |
|             | Likely          | High risk         | Moderate risk     | Moderate/low risk | Low risk          |
|             | Low Likelihood  | Moderate risk     | Moderate/low risk | Low risk          | Very low risk     |
|             | Unlikely        | Moderate/low risk | Low risk          | Very low risk     | Very low risk     |

Table 3.2 Risk Ratings Matrix

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

Table 3.3 Risk Ratings Definition



### 3.2.2 Summary of Plausible Sources

Possible sources of contamination identified or discounted as part of the desk study are summarised in Table 3.4.

| Source                                           | Description                                                                                                                                                                                                 | Comments                                                                                                                      |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Shallow Soils and Made Ground (if present)       | General chemical quality of the near surface soils.                                                                                                                                                         | Possible elevated concentrations of metals, organic (including PAH and TPH), inorganic contaminants, pesticides and asbestos. |
| Ground gases/vapours                             | Possible presence of Made Ground beneath the site, (only considered a viable source of ground gas if significant proportions of organic material are present). Historic landfills to the south of the site. | Methane, carbon dioxide, depleted oxygen, trace gases.                                                                        |
| Naturally occurring aggressive ground conditions | Naturally occurring compounds in the ground which could damage buried concrete.                                                                                                                             | Possible elevated sulphate concentrations.                                                                                    |

**Table 3.4 Possible Sources of Contamination**

### 3.2.3 Summary of Plausible Pathways

The plausible pathways are summarised in Table 3.5. These pathways are based on the proposed commercial end use.

| Pathway                      | Description                                                                                                                                                                                   |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Direct Contact               | Ingestion of soil particles, inhalation of soil derived dust (including tracked back dust), dermal contact.                                                                                   |
| Inhalation                   | Inhalation of soil dust both inside and outside of buildings.<br>Inhalation of ground gas/vapours within buildings.                                                                           |
| Vertical & Lateral Migration | Contaminant movement both vertically through leaching/gravity and horizontally along preferential pathways, e.g. services trenches, more permeable bedded strata or within groundwater.       |
| Shallow Groundwater          | Shallow groundwater or perched water may be present within superficial deposits and bedrock deposits and, if encountered, could result in the vertical and lateral migration of contaminants. |
| Chemical Attack              | Attack of buried plastics and concrete by aggressive ground conditions.                                                                                                                       |
| Flooding                     | Discounted – the site was indicated to be located outside of any current indicative fluvial flood plain.                                                                                      |

**Table 3.5 Possible Contaminant Pathways**





### 3.2.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development, identified or otherwise discounted, are summarised in Table 3.6.

| Receptor             | Description                                                                                                                 | Comments                                                                                              |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| End Users            | Future users of the proposed development.                                                                                   | The development will include a commercial, open space and associated infrastructure.                  |
| Adjacent Land Users  | Sensitive land uses identified within the immediate vicinity.                                                               | Adjacent land uses are a mixture of residential and open fields.                                      |
| Built Environment    | Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils. | Aggressive ground conditions and limited areas/depths of Made Ground may be present beneath the site. |
| Groundwater          | Controlled Waters contained within the aquifer(s) beneath the site.                                                         | The site lies upon Secondary Undifferentiated strata. The site was located outside of any SPZ.        |
| Surface Water        | Controlled Waters within lakes, rivers, ponds, etc., or coastal waters.                                                     | The nearest surface water features identified comprised a stream/ditch 208m east of the site.         |
| Ecological Receptors | Sensitive areas of ecological significance.                                                                                 | No sensitive ecological receptors identified – this is not considered further in the assessment.      |

**Table 3.6 Possible Receptors of Contamination**

Site workers involved in the preparation and construction of the development have not been considered in this assessment as the principal contractor is duty bound under the current CDM Regulations to undertake their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 3.7 summarises the identified plausible pollution linkages and a qualitative assessment of the risks based on the desk study research.



## Desk Study

| Potential Source/Media                                     | Potential Receptors          | Possible Pathways                                  | Probability    | Consequence | Risk & Justification                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------|------------------------------|----------------------------------------------------|----------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contaminants of Concern<br>(Shallow Soils and Made Ground) | End Users                    | Direct contact and inhalation of soil derived dust | Likely         | Minor       | <b>Low</b><br>Future site may to come into direct contact with soils where soft landscaping is present. Where soft landscaping is proposed it will be completed with uncontaminated soils in the near surface root zone which will reduce the risk.                                                                                                                                          |
|                                                            | Adjacent Land Users          | Direct contact and inhalation of soil derived dust | Unlikely       | Minor       | <b>Very Low</b><br>Adjacent site users are unlikely to come into contact with the soils at the site.                                                                                                                                                                                                                                                                                         |
|                                                            | Soft Landscaping             | Root uptake                                        | Unlikely       | Mild        | <b>Very Low</b><br>Soft landscaping is proposed on the site and thus, root uptake is possible. However, landscaping would be completed with uncontaminated soils in the near surface root zone. Furthermore, no clear evidence of harm to existing vegetation was observed. Where soft landscaping is proposed it will be completed with uncontaminated soils in the near surface root zone. |
|                                                            | Water Supply Pipes           | Direct contact                                     | Low Likelihood | Minor       | <b>Very Low</b><br>Water supply pipes are likely to come into contact with impacted soils depending upon depth of installation and extent of soil impact.                                                                                                                                                                                                                                    |
|                                                            | Buildings and Infrastructure | Direct contact                                     | Likely         | Minor       | <b>Low</b><br>Foundations and utilities will be placed within potentially aggressive soils (e.g. sulphate). However, the consequence is anticipated to be minor.                                                                                                                                                                                                                             |
|                                                            | Groundwater                  | Vertical Migration                                 | Unlikely       | Minor       | <b>Very Low</b><br>The site overlies secondary undifferentiated strata. However, significant potentially mobile contamination is not anticipated.                                                                                                                                                                                                                                            |
|                                                            | Surface Water                | Lateral Migration                                  | Unlikely       | Minor       | <b>Very Low</b><br>No surface water features are present on site. However, significant potentially mobile contamination is not anticipated.                                                                                                                                                                                                                                                  |



| Potential Source/Media                                                            | Potential Receptors          | Possible Pathways                                              | Probability | Consequence | Risk & Justification                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------|------------------------------|----------------------------------------------------------------|-------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ground gases and vapours from any Made Ground and historic landfills to the south | End Users                    | Inhalation                                                     | Likely      | Medium      | <b>Moderate</b><br>Future use may inhale potential ground gases produced by this source. Extensive or deep Made Ground on site sufficient for significant ground gas generation is not anticipated. However, the off-site historic landfills may be a source of ground gases to the site. |
|                                                                                   | Buildings and infrastructure | Gas accumulation and potential explosion of flammable gases    | Unlikely    | Minor       | <b>Very Low</b><br>Extensive putrescible material sufficient for significant methane production is not anticipated at the site. Significant methane migration from the off-site landfills is also not anticipated.                                                                        |
| Naturally occurring aggressive ground conditions                                  | End users                    | Direct contact and inhalation / ingestion of soil derived dust | Unlikely    | Minor       | <b>Very Low</b><br>No naturally occurring potential sources which could harm human health have been identified. The consequence is likely to be minor.                                                                                                                                    |
|                                                                                   | Adjacent land users          | Direct contact                                                 | Unlikely    | Minor       | <b>Very Low</b><br>No potential sources which could harm human health have been identified. The consequence is likely to be minor.                                                                                                                                                        |
|                                                                                   | Water supply pipes           | Direct contact                                                 | Unlikely    | Minor       | <b>Very Low</b><br>No potential sources which could harm human health have been identified. The consequence is likely to be minor.                                                                                                                                                        |
|                                                                                   | Buildings and Infrastructure | Direct contact                                                 | Likely      | Minor       | <b>Low</b><br>Foundations will be placed within soils which may be an aggressive environment for concrete. However, the consequence is anticipated to be minor.                                                                                                                           |

Table 3.7 Plausible Pollution Linkages



### 3.3 Preliminary Risk Assessment Summary

The Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) developed from the information gathered as part of the desk study process have identified several plausible pollutant linkages that exist in relation to the proposed development of the site and the preliminary risk rating for the majority of pollution linkages have been classified as low or very low. A moderate risk rating has been assigned in relation to risks relating to ground gases from the off-site historic landfills to the south of the site.

The potential pollutant linkages established within this desk study are not considered to prevent development on the subject site but could require remediation or the employment of risk mitigation measures to reduce the risks to key receptors.

In order to progress this assessment in line with the National Planning Policy Framework, to provide further characterisation of the site and refinement of the PRA and CSM, it is recommended that intrusive investigation and associated testing is undertaken to confirm the findings of the desk study report and to provide a robust risk assessment for the site and proposed development. As such, it is recommended that geochemical and geotechnical investigation be carried out on the site to include analysis of soil samples for the range of potential contaminants identified within the desk study.

### 3.4 Preliminary Geotechnical Assessment Summary

With reference to British Geological Survey (BGS) mapping, the underlying geology is anticipated to comprise River Terrace Deposits overlying the Wittering Formation. Given the previous agricultural land use and surrounding developed land, there remains the possibility that there may be areas of reworked, disturbed or Made Ground across the site.

It is possible that conventional strip or pad foundations could be suitable for the proposed development where natural ground is encountered at ground level. However, where foundations are required in any areas of Made Ground or infilled ground, which may be present to depth beneath areas of the site, a deeper or piled foundation solution may be required. Shallow groundwater could also impact the viability of conventional foundations. The development should also take into account the presence of trees and/or desiccation at the site if shrinkable soils are present. Localised deepening of foundations may be required in the vicinity of trees and piled foundations may be required in proximity to trees (subject to tree type and ground conditions).

In line with a SuDS approach, storm water should be discharged to the ground wherever possible. Potential for this should be confirmed by soakage testing. In addition, a period of winter groundwater monitoring is often required by Lead Local Flood Authorities.



## 4.0 CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions

The desk study has shown the subject site itself to historically comprise a mixture of woodland and open fields. There is potential for Made Ground to be present in some limited areas of the site potentially associated with adjacent development land and infilled ponds.

The proposed development is understood to comprise commercial development with access roads, open space and associated infrastructure.

A maximum risk rating of moderate/low has been assigned in relation to ground gases. Very low or low risk ratings have been classified related to soil contamination and naturally occurring aggressive ground conditions at the site. Further assessment is required to progress characterisation of the contamination status and ground gas regime of the site to inform an update of the conceptual site model and allow a robust assessment of the risk to human health and the environment.

It is possible that conventional foundations would be suitable for parts of the proposed development, although any design should account for the potential presence of shrinkable soils across the site, as well as the presence of trees and hedgerows on site and/or desiccation of the shallow soils. Disposal of stormwater to soakaways may be potentially possible in permeable soils subject to formal soakage testing.

### 4.2 Recommendations

At this stage and based on the findings of the desk study and preliminary risk assessment, the following scope of works is recommended for the intrusive investigation on the site.

- Intrusive investigation works should be carried out in order to clarify the geotechnical and geo-environmental issues pertaining to redevelopment of the site.
- Soil sampling and analysis should be undertaken to inform subsequent geotechnical and geo-environmental risk assessment.
- Laboratory analysis, on soil samples recovered from the exploratory holes for a range of geotechnical parameters to support foundation design.
- Laboratory analysis on soil samples recovered from the exploratory holes, for an analytical suite to include the potential contaminants identified within the desk study and encountered during any intrusive investigation. The suite should include commonly occurring metals, non-metals, asbestos, TPH, and PAH.
- Soakage testing to inform the emerging drainage strategy.
- Ground gas and groundwater monitoring of the site to determine the ground gas regime.
- Groundwater monitoring over a winter period may be required to inform the emerging drainage strategy for the site. A winter period is typically defined as early October to the end of the following March or early April.

It may be necessary to undertake remediation/risk mitigation measures on this site to break pollutant linkages and thus protect key receptors such as human health, controlled waters, built environment, soft landscaping and the like. The requirement and extent of any such remediation cannot be determined until such time as an intrusive investigation and associated testing has been completed.



## FIGURES





|                       |                             |
|-----------------------|-----------------------------|
| <b>Project Title:</b> | <b>West End Road</b>        |
| <b>Location :</b>     | <b>Bursledon, Hampshire</b> |
| <b>Project No. :</b>  | <b>GE22135</b>              |
| <b>Client :</b>       |                             |

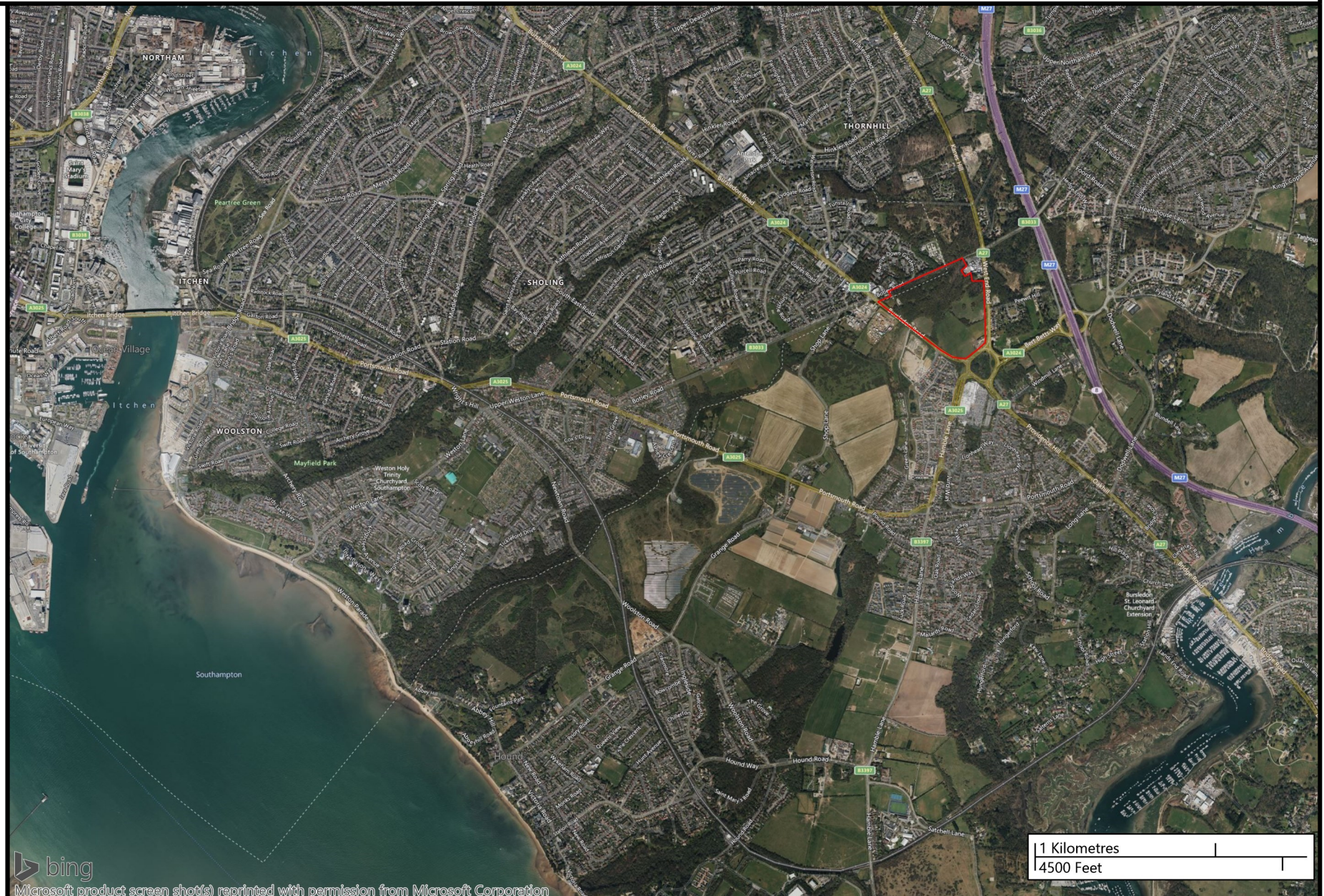
**Title :** Figure 1 - Site Location Plan  
**Scale:** 1:30000  
**Engineer:** JT



## Geo-Environmental

Legend Key

☐ Project Bounds - Project Bounds

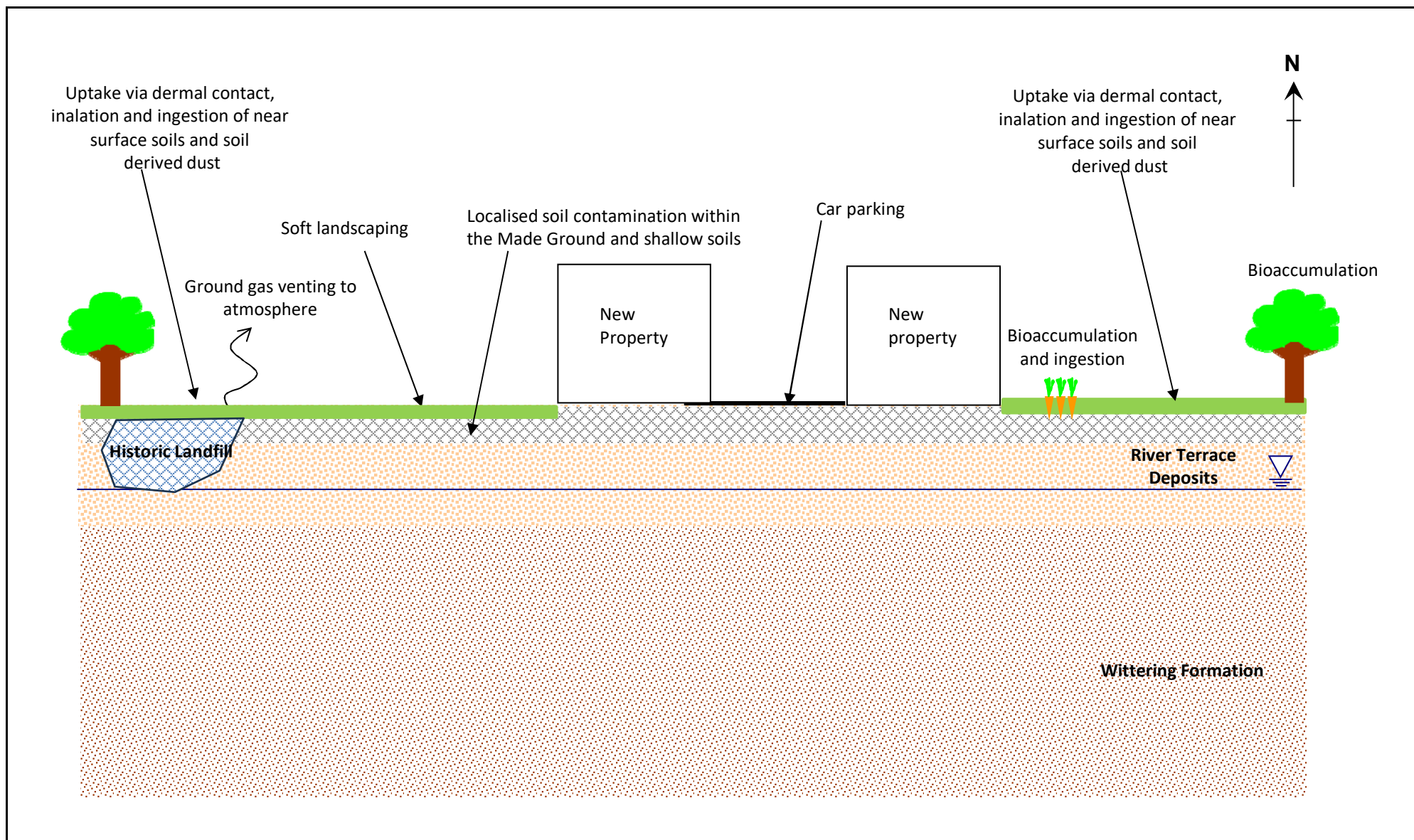






|          |                                               |           |            |                                                                                                                                                                                    |                                                                                                                               |  |
|----------|-----------------------------------------------|-----------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--|
| Project: | West End Road, Bursledon, Hampshire, SO31 8BN |           |            | Title                                                                                                                                                                              | Proposed Development Plan                                                                                                     |  |
| Client:  | Wates Developments                            |           |            | <div>Geo-Environmental Services Ltd</div> <div>Unit 7 Danworth Farm, Cuckfield Road</div> <div>Hurstpierpoint, West Sussex BN6 9GL</div> <div>+44(0)1273 832972 www.gesl.net</div> | <div></div> <div>Geo-Environmental</div> |  |
| Ref No:  | GE22135                                       | Revision: | 1          |                                                                                                                                                                                    |                                                                                                                               |  |
| Drawn:   | WH                                            | Date:     | 04/12/2023 |                                                                                                                                                                                    |                                                                                                                               |  |
| Figure:  | 2                                             | Scale:    | n/a        |                                                                                                                                                                                    |                                                                                                                               |  |





|                 |                                               |                  |              |                                                                                                                                                                    |                                                                                                                   |  |  |
|-----------------|-----------------------------------------------|------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--|--|
| <b>Project:</b> | West End Road, Bursledon, Hampshire, SO31 8BN |                  |              | <b>Title</b>                                                                                                                                                       | Conceptual Site Model (Proposed Site Use)                                                                         |  |  |
| <b>Client:</b>  | Wates Developments                            |                  |              | <b>Geo-Environmental Services Ltd</b><br><br>Unit 7 Danworth Farm, Cuckfield Road<br><br>Hurstpierpoint, West Sussex BN6 9GL<br><br>+44(0)1273 832972 www.gesl.net | <br><b>Geo-Environmental</b> |  |  |
| <b>Ref No:</b>  | GE22135                                       | <b>Revision:</b> | 1.0          |                                                                                                                                                                    |                                                                                                                   |  |  |
| <b>Drawn:</b>   | WH                                            | <b>Date:</b>     | 30/11/2023   |                                                                                                                                                                    |                                                                                                                   |  |  |
| <b>Figure:</b>  | 3                                             | <b>Scale:</b>    | Not To Scale |                                                                                                                                                                    |                                                                                                                   |  |  |



## **APPENDIX A**

### **Desk Study Information**

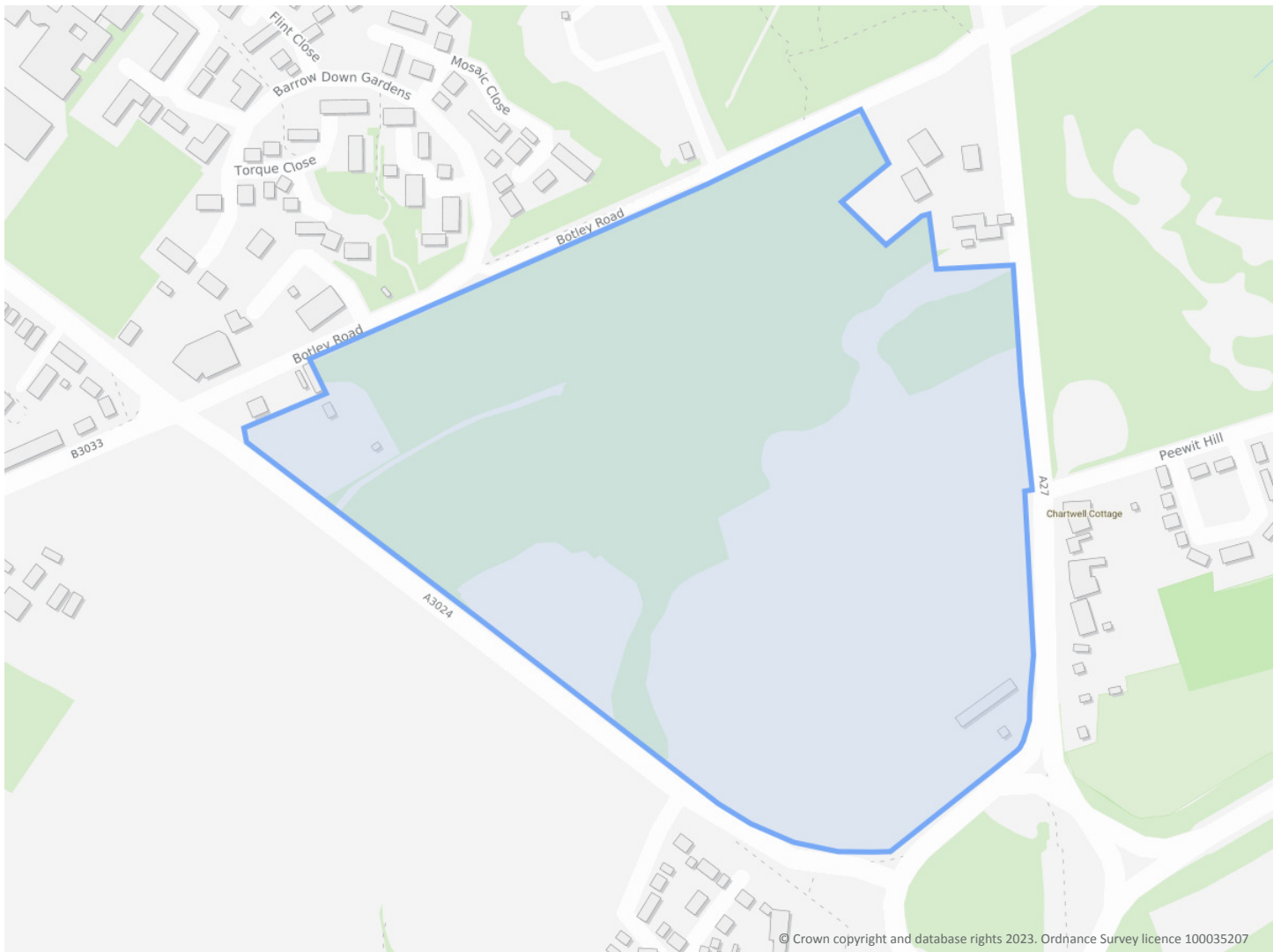


**WEST END ROAD, BURSLEDON, SO31 8BN****Order Details**

**Date:** 15/11/2023  
**Your ref:** 7025  
**Our Ref:** GS-N2L-NRT-KUU-EEB

**Site Details**

**Location:** 447977 111290  
**Area:** 19.45 ha  
**Authority:** [Eastleigh Borough Council](#) ↗,  
[Southampton City Council](#) ↗

**Summary of findings**[p. 2 >](#)**Aerial image**[p. 9 >](#)**OS MasterMap site plan**

N/A: &gt;10ha

[groundsure.com/insightuserguide](https://groundsure.com/insightuserguide) ↗

Contact us with any questions at:

[info@groundsure.com](mailto:info@groundsure.com) ↗

01273 257 755

## Summary of findings

| Page                    | Section                  | <a href="#">Past land use &gt;</a>                        | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|-------------------------|--------------------------|-----------------------------------------------------------|---------|-------|---------|----------|-----------|
| <a href="#">14 &gt;</a> | <a href="#">1.1 &gt;</a> | <a href="#">Historical industrial land uses &gt;</a>      | 0       | 9     | 0       | 28       | -         |
| <a href="#">16 &gt;</a> | <a href="#">1.2 &gt;</a> | <a href="#">Historical tanks &gt;</a>                     | 0       | 0     | 1       | 0        | -         |
| <a href="#">16 &gt;</a> | <a href="#">1.3 &gt;</a> | <a href="#">Historical energy features &gt;</a>           | 0       | 1     | 4       | 12       | -         |
| <a href="#">17 &gt;</a> | <a href="#">1.4 &gt;</a> | <a href="#">Historical petrol stations &gt;</a>           | 0       | 2     | 0       | 0        | -         |
| <a href="#">18 &gt;</a> | <a href="#">1.5 &gt;</a> | <a href="#">Historical garages &gt;</a>                   | 0       | 3     | 0       | 3        | -         |
| 18                      | 1.6                      | Historical military land                                  | 0       | 0     | 0       | 0        | -         |
| Page                    | Section                  | <a href="#">Past land use - un-grouped &gt;</a>           | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">19 &gt;</a> | <a href="#">2.1 &gt;</a> | <a href="#">Historical industrial land uses &gt;</a>      | 0       | 12    | 0       | 39       | -         |
| <a href="#">21 &gt;</a> | <a href="#">2.2 &gt;</a> | <a href="#">Historical tanks &gt;</a>                     | 0       | 0     | 1       | 0        | -         |
| <a href="#">22 &gt;</a> | <a href="#">2.3 &gt;</a> | <a href="#">Historical energy features &gt;</a>           | 0       | 1     | 9       | 27       | -         |
| <a href="#">23 &gt;</a> | <a href="#">2.4 &gt;</a> | <a href="#">Historical petrol stations &gt;</a>           | 0       | 2     | 0       | 0        | -         |
| <a href="#">24 &gt;</a> | <a href="#">2.5 &gt;</a> | <a href="#">Historical garages &gt;</a>                   | 0       | 5     | 0       | 4        | -         |
| Page                    | Section                  | <a href="#">Waste and landfill &gt;</a>                   | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 25                      | 3.1                      | Active or recent landfill                                 | 0       | 0     | 0       | 0        | -         |
| 25                      | 3.2                      | Historical landfill (BGS records)                         | 0       | 0     | 0       | 0        | -         |
| 26                      | 3.3                      | Historical landfill (LA/mapping records)                  | 0       | 0     | 0       | 0        | -         |
| <a href="#">26 &gt;</a> | <a href="#">3.4 &gt;</a> | <a href="#">Historical landfill (EA/NRW records) &gt;</a> | 0       | 2     | 0       | 2        | -         |
| 27                      | 3.5                      | Historical waste sites                                    | 0       | 0     | 0       | 0        | -         |
| 27                      | 3.6                      | Licensed waste sites                                      | 0       | 0     | 0       | 0        | -         |
| <a href="#">27 &gt;</a> | <a href="#">3.7 &gt;</a> | <a href="#">Waste exemptions &gt;</a>                     | 0       | 2     | 2       | 3        | -         |
| Page                    | Section                  | <a href="#">Current industrial land use &gt;</a>          | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">29 &gt;</a> | <a href="#">4.1 &gt;</a> | <a href="#">Recent industrial land uses &gt;</a>          | 0       | 1     | 9       | -        | -         |
| <a href="#">30 &gt;</a> | <a href="#">4.2 &gt;</a> | <a href="#">Current or recent petrol stations &gt;</a>    | 0       | 0     | 1       | 2        | -         |
| 31                      | 4.3                      | Electricity cables                                        | 0       | 0     | 0       | 0        | -         |
| 31                      | 4.4                      | Gas pipelines                                             | 0       | 0     | 0       | 0        | -         |
| 31                      | 4.5                      | Sites determined as Contaminated Land                     | 0       | 0     | 0       | 0        | -         |



| 31                   | 4.6                    | Control of Major Accident Hazards (COMAH)                     | 0                        | 0     | 0       | 0        | -         |
|----------------------|------------------------|---------------------------------------------------------------|--------------------------|-------|---------|----------|-----------|
| 31                   | 4.7                    | Regulated explosive sites                                     | 0                        | 0     | 0       | 0        | -         |
| 32                   | 4.8                    | Hazardous substance storage/usage                             | 0                        | 0     | 0       | 0        | -         |
| 32                   | 4.9                    | Historical licensed industrial activities (IPC)               | 0                        | 0     | 0       | 0        | -         |
| 32                   | 4.10                   | Licensed industrial activities (Part A(1))                    | 0                        | 0     | 0       | 0        | -         |
| <a href="#">32</a> > | <a href="#">4.11</a> > | <a href="#">Licensed pollutant release (Part A(2)/B) &gt;</a> | 0                        | 0     | 0       | 2        | -         |
| 33                   | 4.12                   | Radioactive Substance Authorisations                          | 0                        | 0     | 0       | 0        | -         |
| <a href="#">33</a> > | <a href="#">4.13</a> > | <a href="#">Licensed Discharges to controlled waters &gt;</a> | 0                        | 0     | 0       | 3        | -         |
| 33                   | 4.14                   | Pollutant release to surface waters (Red List)                | 0                        | 0     | 0       | 0        | -         |
| 34                   | 4.15                   | Pollutant release to public sewer                             | 0                        | 0     | 0       | 0        | -         |
| 34                   | 4.16                   | List 1 Dangerous Substances                                   | 0                        | 0     | 0       | 0        | -         |
| 34                   | 4.17                   | List 2 Dangerous Substances                                   | 0                        | 0     | 0       | 0        | -         |
| 34                   | 4.18                   | Pollution Incidents (EA/NRW)                                  | 0                        | 0     | 0       | 0        | -         |
| 34                   | 4.19                   | Pollution inventory substances                                | 0                        | 0     | 0       | 0        | -         |
| 35                   | 4.20                   | Pollution inventory waste transfers                           | 0                        | 0     | 0       | 0        | -         |
| 35                   | 4.21                   | Pollution inventory radioactive waste                         | 0                        | 0     | 0       | 0        | -         |
| Page                 | Section                | <a href="#">Hydrogeology &gt;</a>                             | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">36</a> > | <a href="#">5.1</a> >  | <a href="#">Superficial aquifer &gt;</a>                      | Identified (within 500m) |       |         |          |           |
| <a href="#">38</a> > | <a href="#">5.2</a> >  | <a href="#">Bedrock aquifer &gt;</a>                          | Identified (within 500m) |       |         |          |           |
| <a href="#">39</a> > | <a href="#">5.3</a> >  | <a href="#">Groundwater vulnerability &gt;</a>                | Identified (within 50m)  |       |         |          |           |
| 41                   | 5.4                    | Groundwater vulnerability- soluble rock risk                  | None (within 0m)         |       |         |          |           |
| 41                   | 5.5                    | Groundwater vulnerability- local information                  | None (within 0m)         |       |         |          |           |
| <a href="#">42</a> > | <a href="#">5.6</a> >  | <a href="#">Groundwater abstractions &gt;</a>                 | 0                        | 0     | 0       | 0        | 1         |
| <a href="#">43</a> > | <a href="#">5.7</a> >  | <a href="#">Surface water abstractions &gt;</a>               | 0                        | 0     | 0       | 0        | 4         |
| 44                   | 5.8                    | Potable abstractions                                          | 0                        | 0     | 0       | 0        | 0         |
| 44                   | 5.9                    | Source Protection Zones                                       | 0                        | 0     | 0       | 0        | -         |
| 45                   | 5.10                   | Source Protection Zones (confined aquifer)                    | 0                        | 0     | 0       | 0        | -         |
| Page                 | Section                | <a href="#">Hydrology &gt;</a>                                | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">46</a> > | <a href="#">6.1</a> >  | <a href="#">Water Network (OS MasterMap) &gt;</a>             | 0                        | 0     | 3       | -        | -         |



| <a href="#">47 &gt;</a> | <a href="#">6.2 &gt;</a>  | <a href="#">Surface water features &gt;</a>                      | 0                                            | 0     | 2       | -        | -         |
|-------------------------|---------------------------|------------------------------------------------------------------|----------------------------------------------|-------|---------|----------|-----------|
| <a href="#">47 &gt;</a> | <a href="#">6.3 &gt;</a>  | <a href="#">WFD Surface water body catchments &gt;</a>           | 1                                            | -     | -       | -        | -         |
| 48                      | 6.4                       | WFD Surface water bodies                                         | 0                                            | 0     | 0       | -        | -         |
| <a href="#">48 &gt;</a> | <a href="#">6.5 &gt;</a>  | <a href="#">WFD Groundwater bodies &gt;</a>                      | 2                                            | -     | -       | -        | -         |
| Page                    | Section                   | River and coastal flooding                                       | On site                                      | 0-50m | 50-250m | 250-500m | 500-2000m |
| 49                      | 7.1                       | Risk of flooding from rivers and the sea                         | None (within 50m)                            |       |         |          |           |
| 49                      | 7.2                       | Historical Flood Events                                          | 0                                            | 0     | 0       | -        | -         |
| 49                      | 7.3                       | Flood Defences                                                   | 0                                            | 0     | 0       | -        | -         |
| 50                      | 7.4                       | Areas Benefiting from Flood Defences                             | 0                                            | 0     | 0       | -        | -         |
| 50                      | 7.5                       | Flood Storage Areas                                              | 0                                            | 0     | 0       | -        | -         |
| 51                      | 7.6                       | Flood Zone 2                                                     | None (within 50m)                            |       |         |          |           |
| 51                      | 7.7                       | Flood Zone 3                                                     | None (within 50m)                            |       |         |          |           |
| Page                    | Section                   | <a href="#">Surface water flooding &gt;</a>                      |                                              |       |         |          |           |
| <a href="#">52 &gt;</a> | <a href="#">8.1 &gt;</a>  | <a href="#">Surface water flooding &gt;</a>                      | 1 in 30 year, Greater than 1.0m (within 50m) |       |         |          |           |
| Page                    | Section                   | <a href="#">Groundwater flooding &gt;</a>                        |                                              |       |         |          |           |
| <a href="#">54 &gt;</a> | <a href="#">9.1 &gt;</a>  | <a href="#">Groundwater flooding &gt;</a>                        | Low (within 50m)                             |       |         |          |           |
| Page                    | Section                   | <a href="#">Environmental designations &gt;</a>                  | On site                                      | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">55 &gt;</a> | <a href="#">10.1 &gt;</a> | <a href="#">Sites of Special Scientific Interest (SSSI) &gt;</a> | 0                                            | 0     | 0       | 0        | 1         |
| <a href="#">56 &gt;</a> | <a href="#">10.2 &gt;</a> | <a href="#">Conserved wetland sites (Ramsar sites) &gt;</a>      | 0                                            | 0     | 0       | 0        | 1         |
| <a href="#">56 &gt;</a> | <a href="#">10.3 &gt;</a> | <a href="#">Special Areas of Conservation (SAC) &gt;</a>         | 0                                            | 0     | 0       | 0        | 1         |
| <a href="#">57 &gt;</a> | <a href="#">10.4 &gt;</a> | <a href="#">Special Protection Areas (SPA) &gt;</a>              | 0                                            | 0     | 0       | 0        | 4         |
| 58                      | 10.5                      | National Nature Reserves (NNR)                                   | 0                                            | 0     | 0       | 0        | 0         |
| <a href="#">58 &gt;</a> | <a href="#">10.6 &gt;</a> | <a href="#">Local Nature Reserves (LNR) &gt;</a>                 | 0                                            | 1     | 0       | 0        | 6         |
| <a href="#">59 &gt;</a> | <a href="#">10.7 &gt;</a> | <a href="#">Designated Ancient Woodland &gt;</a>                 | 0                                            | 0     | 0       | 0        | 11        |
| 59                      | 10.8                      | Biosphere Reserves                                               | 0                                            | 0     | 0       | 0        | 0         |
| 60                      | 10.9                      | Forest Parks                                                     | 0                                            | 0     | 0       | 0        | 0         |
| 60                      | 10.10                     | Marine Conservation Zones                                        | 0                                            | 0     | 0       | 0        | 0         |
| 60                      | 10.11                     | Green Belt                                                       | 0                                            | 0     | 0       | 0        | 0         |
| 60                      | 10.12                     | Proposed Ramsar sites                                            | 0                                            | 0     | 0       | 0        | 0         |



| 60                   | 10.13                   | Possible Special Areas of Conservation (pSAC)       | 0                        | 0     | 0       | 0        | 0         |
|----------------------|-------------------------|-----------------------------------------------------|--------------------------|-------|---------|----------|-----------|
| 61                   | 10.14                   | Potential Special Protection Areas (pSPA)           | 0                        | 0     | 0       | 0        | 0         |
| 61                   | 10.15                   | Nitrate Sensitive Areas                             | 0                        | 0     | 0       | 0        | 0         |
| <a href="#">61</a> > | <a href="#">10.16</a> > | <a href="#">Nitrate Vulnerable Zones</a> >          | 1                        | 0     | 0       | 0        | 0         |
| <a href="#">62</a> > | <a href="#">10.17</a> > | <a href="#">SSSI Impact Risk Zones</a> >            | 2                        | -     | -       | -        | -         |
| <a href="#">64</a> > | <a href="#">10.18</a> > | <a href="#">SSSI Units</a> >                        | 0                        | 0     | 0       | 0        | 3         |
| Page                 | Section                 | Visual and cultural designations                    | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| 66                   | 11.1                    | World Heritage Sites                                | 0                        | 0     | 0       | -        | -         |
| 66                   | 11.2                    | Area of Outstanding Natural Beauty                  | 0                        | 0     | 0       | -        | -         |
| 66                   | 11.3                    | National Parks                                      | 0                        | 0     | 0       | -        | -         |
| 66                   | 11.4                    | Listed Buildings                                    | 0                        | 0     | 0       | -        | -         |
| 67                   | 11.5                    | Conservation Areas                                  | 0                        | 0     | 0       | -        | -         |
| 67                   | 11.6                    | Scheduled Ancient Monuments                         | 0                        | 0     | 0       | -        | -         |
| 67                   | 11.7                    | Registered Parks and Gardens                        | 0                        | 0     | 0       | -        | -         |
| Page                 | Section                 | <a href="#">Agricultural designations</a> >         | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">68</a> > | <a href="#">12.1</a> >  | <a href="#">Agricultural Land Classification</a> >  | Urban (within 250m)      |       |         |          |           |
| 69                   | 12.2                    | Open Access Land                                    | 0                        | 0     | 0       | -        | -         |
| <a href="#">69</a> > | <a href="#">12.3</a> >  | <a href="#">Tree Felling Licences</a> >             | 0                        | 1     | 0       | -        | -         |
| <a href="#">70</a> > | <a href="#">12.4</a> >  | <a href="#">Environmental Stewardship Schemes</a> > | 0                        | 1     | 0       | -        | -         |
| 70                   | 12.5                    | Countryside Stewardship Schemes                     | 0                        | 0     | 0       | -        | -         |
| Page                 | Section                 | <a href="#">Habitat designations</a> >              | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">71</a> > | <a href="#">13.1</a> >  | <a href="#">Priority Habitat Inventory</a> >        | 8                        | 10    | 25      | -        | -         |
| <a href="#">73</a> > | <a href="#">13.2</a> >  | <a href="#">Habitat Networks</a> >                  | 5                        | 1     | 4       | -        | -         |
| 74                   | 13.3                    | Open Mosaic Habitat                                 | 0                        | 0     | 0       | -        | -         |
| 74                   | 13.4                    | Limestone Pavement Orders                           | 0                        | 0     | 0       | -        | -         |
| Page                 | Section                 | <a href="#">Geology 1:10,000 scale</a> >            | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">75</a> > | <a href="#">14.1</a> >  | <a href="#">10k Availability</a> >                  | Identified (within 500m) |       |         |          |           |
| <a href="#">76</a> > | <a href="#">14.2</a> >  | <a href="#">Artificial and made ground (10k)</a> >  | 0                        | 0     | 2       | 0        | -         |
| <a href="#">77</a> > | <a href="#">14.3</a> >  | <a href="#">Superficial geology (10k)</a> >         | 2                        | 0     | 0       | 4        | -         |



| 78                      | 14.4                      | Landslip (10k)                                           | 0                        | 0     | 0       | 0        | -         |
|-------------------------|---------------------------|----------------------------------------------------------|--------------------------|-------|---------|----------|-----------|
| <a href="#">79 &gt;</a> | <a href="#">14.5 &gt;</a> | <a href="#">Bedrock geology (10k) &gt;</a>               | 1                        | 0     | 1       | 0        | -         |
| 80                      | 14.6                      | Bedrock faults and other linear features (10k)           | 0                        | 0     | 0       | 0        | -         |
| Page                    | Section                   | <a href="#">Geology 1:50,000 scale &gt;</a>              | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">81 &gt;</a> | <a href="#">15.1 &gt;</a> | <a href="#">50k Availability &gt;</a>                    | Identified (within 500m) |       |         |          |           |
| <a href="#">82 &gt;</a> | <a href="#">15.2 &gt;</a> | <a href="#">Artificial and made ground (50k) &gt;</a>    | 0                        | 0     | 2       | 0        | -         |
| 83                      | 15.3                      | Artificial ground permeability (50k)                     | 0                        | 0     | -       | -        | -         |
| <a href="#">84 &gt;</a> | <a href="#">15.4 &gt;</a> | <a href="#">Superficial geology (50k) &gt;</a>           | 2                        | 0     | 0       | 4        | -         |
| <a href="#">85 &gt;</a> | <a href="#">15.5 &gt;</a> | <a href="#">Superficial permeability (50k) &gt;</a>      | Identified (within 50m)  |       |         |          |           |
| 85                      | 15.6                      | Landslip (50k)                                           | 0                        | 0     | 0       | 0        | -         |
| 85                      | 15.7                      | Landslip permeability (50k)                              | None (within 50m)        |       |         |          |           |
| <a href="#">86 &gt;</a> | <a href="#">15.8 &gt;</a> | <a href="#">Bedrock geology (50k) &gt;</a>               | 1                        | 0     | 1       | 0        | -         |
| <a href="#">87 &gt;</a> | <a href="#">15.9 &gt;</a> | <a href="#">Bedrock permeability (50k) &gt;</a>          | Identified (within 50m)  |       |         |          |           |
| 87                      | 15.10                     | Bedrock faults and other linear features (50k)           | 0                        | 0     | 0       | 0        | -         |
| Page                    | Section                   | <a href="#">Boreholes &gt;</a>                           | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">88 &gt;</a> | <a href="#">16.1 &gt;</a> | <a href="#">BGS Boreholes &gt;</a>                       | 1                        | 4     | 35      | -        | -         |
| Page                    | Section                   | <a href="#">Natural ground subsidence &gt;</a>           |                          |       |         |          |           |
| <a href="#">91 &gt;</a> | <a href="#">17.1 &gt;</a> | <a href="#">Shrink swell clays &gt;</a>                  | Moderate (within 50m)    |       |         |          |           |
| <a href="#">92 &gt;</a> | <a href="#">17.2 &gt;</a> | <a href="#">Running sands &gt;</a>                       | Very low (within 50m)    |       |         |          |           |
| <a href="#">93 &gt;</a> | <a href="#">17.3 &gt;</a> | <a href="#">Compressible deposits &gt;</a>               | Negligible (within 50m)  |       |         |          |           |
| <a href="#">94 &gt;</a> | <a href="#">17.4 &gt;</a> | <a href="#">Collapsible deposits &gt;</a>                | Very low (within 50m)    |       |         |          |           |
| <a href="#">95 &gt;</a> | <a href="#">17.5 &gt;</a> | <a href="#">Landslides &gt;</a>                          | Very low (within 50m)    |       |         |          |           |
| <a href="#">96 &gt;</a> | <a href="#">17.6 &gt;</a> | <a href="#">Ground dissolution of soluble rocks &gt;</a> | Negligible (within 50m)  |       |         |          |           |
| Page                    | Section                   | <a href="#">Mining and ground workings &gt;</a>          | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">98 &gt;</a> | <a href="#">18.1 &gt;</a> | <a href="#">BritPits &gt;</a>                            | 0                        | 1     | 0       | 3        | -         |
| <a href="#">99 &gt;</a> | <a href="#">18.2 &gt;</a> | <a href="#">Surface ground workings &gt;</a>             | 0                        | 10    | 11      | -        | -         |
| 100                     | 18.3                      | Underground workings                                     | 0                        | 0     | 0       | 0        | 0         |
| 101                     | 18.4                      | Underground mining extents                               | 0                        | 0     | 0       | 0        | -         |
| 101                     | 18.5                      | Historical Mineral Planning Areas                        | 0                        | 0     | 0       | 0        | -         |



| 101                      | 18.6                      | Non-coal mining                                              | 0                        | 0     | 0       | 0        | 0         |
|--------------------------|---------------------------|--------------------------------------------------------------|--------------------------|-------|---------|----------|-----------|
| 101                      | 18.7                      | JPB mining areas                                             | None (within 0m)         |       |         |          |           |
| 101                      | 18.8                      | The Coal Authority non-coal mining                           | 0                        | 0     | 0       | 0        | -         |
| 102                      | 18.9                      | Researched mining                                            | 0                        | 0     | 0       | 0        | -         |
| 102                      | 18.10                     | Mining record office plans                                   | 0                        | 0     | 0       | 0        | -         |
| 102                      | 18.11                     | BGS mine plans                                               | 0                        | 0     | 0       | 0        | -         |
| 102                      | 18.12                     | Coal mining                                                  | None (within 0m)         |       |         |          |           |
| 103                      | 18.13                     | Brine areas                                                  | None (within 0m)         |       |         |          |           |
| 103                      | 18.14                     | Gypsum areas                                                 | None (within 0m)         |       |         |          |           |
| 103                      | 18.15                     | Tin mining                                                   | None (within 0m)         |       |         |          |           |
| 103                      | 18.16                     | Clay mining                                                  | None (within 0m)         |       |         |          |           |
| Page                     | Section                   | Ground cavities and sinkholes                                | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| 104                      | 19.1                      | Natural cavities                                             | 0                        | 0     | 0       | 0        | -         |
| 104                      | 19.2                      | Mining cavities                                              | 0                        | 0     | 0       | 0        | 0         |
| 104                      | 19.3                      | Reported recent incidents                                    | 0                        | 0     | 0       | 0        | -         |
| 104                      | 19.4                      | Historical incidents                                         | 0                        | 0     | 0       | 0        | -         |
| 105                      | 19.5                      | National karst database                                      | 0                        | 0     | 0       | 0        | -         |
| Page                     | Section                   | <a href="#">Radon &gt;</a>                                   |                          |       |         |          |           |
| <a href="#">106 &gt;</a> | <a href="#">20.1 &gt;</a> | <a href="#">Radon &gt;</a>                                   | Less than 1% (within 0m) |       |         |          |           |
| Page                     | Section                   | <a href="#">Soil chemistry &gt;</a>                          | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <a href="#">108 &gt;</a> | <a href="#">21.1 &gt;</a> | <a href="#">BGS Estimated Background Soil Chemistry &gt;</a> | 6                        | 9     | -       | -        | -         |
| 109                      | 21.2                      | BGS Estimated Urban Soil Chemistry                           | 0                        | 0     | -       | -        | -         |
| 109                      | 21.3                      | BGS Measured Urban Soil Chemistry                            | 0                        | 0     | -       | -        | -         |
| Page                     | Section                   | Railway infrastructure and projects                          | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| 110                      | 22.1                      | Underground railways (London)                                | 0                        | 0     | 0       | -        | -         |
| 110                      | 22.2                      | Underground railways (Non-London)                            | 0                        | 0     | 0       | -        | -         |
| 110                      | 22.3                      | Railway tunnels                                              | 0                        | 0     | 0       | -        | -         |
| 110                      | 22.4                      | Historical railway and tunnel features                       | 0                        | 0     | 0       | -        | -         |
| 110                      | 22.5                      | Royal Mail tunnels                                           | 0                        | 0     | 0       | -        | -         |



|     |       |                     |   |   |   |   |   |
|-----|-------|---------------------|---|---|---|---|---|
| 111 | 22.6  | Historical railways | 0 | 0 | 0 | - | - |
| 111 | 22.7  | Railways            | 0 | 0 | 0 | - | - |
| 111 | 22.8  | Crossrail 1         | 0 | 0 | 0 | 0 | - |
| 111 | 22.9  | Crossrail 2         | 0 | 0 | 0 | 0 | - |
| 111 | 22.10 | HS2                 | 0 | 0 | 0 | 0 | - |



## Recent aerial photograph



Capture Date: 05/04/2020

Site Area: 19.45ha





## Recent site history - 2017 aerial photograph



Capture Date: 21/06/2017

Site Area: 19.45ha



## Recent site history - 2013 aerial photograph



Capture Date: 04/06/2013

Site Area: 19.45ha





## Recent site history - 2005 aerial photograph



Capture Date: 18/05/2005

Site Area: 19.45ha





## Recent site history - 1999 aerial photograph



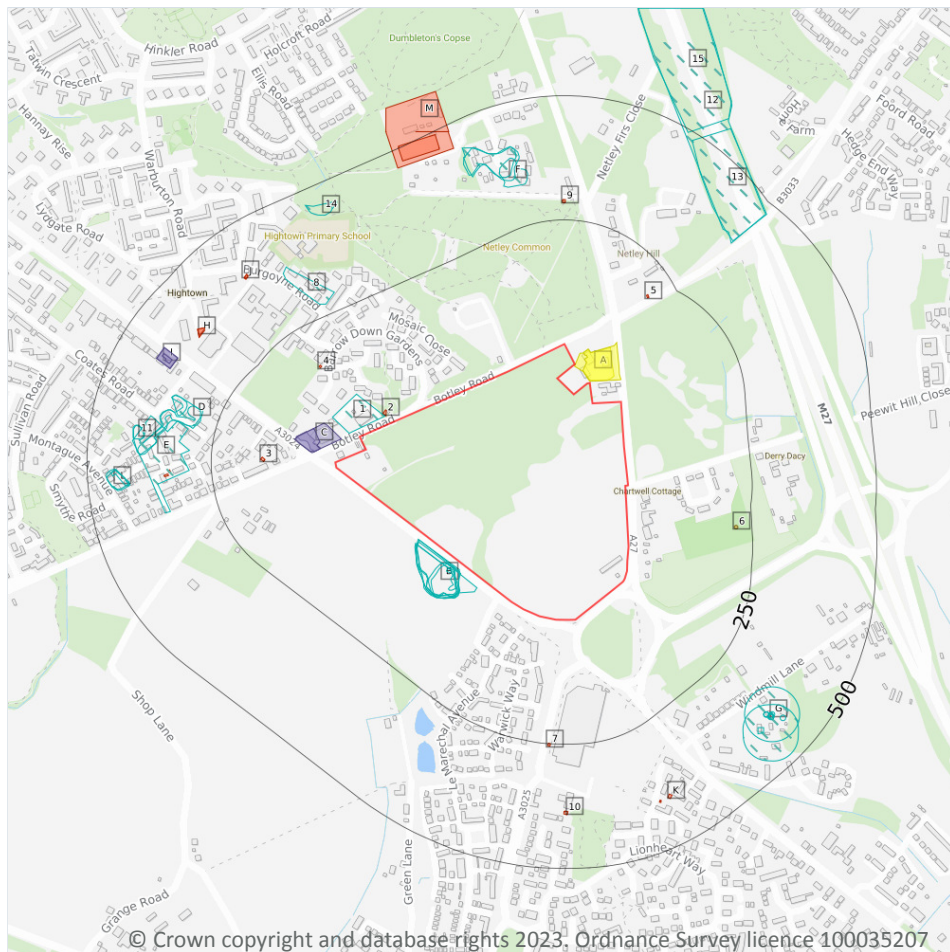
Capture Date: 30/04/1999

Site Area: 19.45ha





## 1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical petrol stations
- Historical garages

### 1.1 Historical industrial land uses

Records within 500m

37

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14](#) >

| ID | Location | Land use   | Dates present | Group ID |
|----|----------|------------|---------------|----------|
| B  | 13m SW   | Gravel Pit | 1908          | 1915505  |



| ID | Location | Land use                    | Dates present | Group ID |
|----|----------|-----------------------------|---------------|----------|
| B  | 15m SW   | Gravel Pit                  | 1908          | 1932269  |
| 1  | 16m W    | Ambulance Station           | 1987 - 1993   | 1893039  |
| B  | 16m SW   | Gravel Pit                  | 1898          | 1956850  |
| B  | 17m SW   | Old Gravel Pit              | 1942          | 1959788  |
| B  | 18m SW   | Gravel Pit                  | 1895          | 1911428  |
| B  | 21m SW   | Unspecified Pit             | 1868          | 1876823  |
| B  | 23m SW   | Old Gravel Pit              | 1957          | 1926977  |
| B  | 24m SW   | Old Gravel Pit              | 1957          | 1916797  |
| 8  | 272m NW  | Unspecified Heap            | 1967          | 1869013  |
| D  | 284m W   | Unspecified Ground Workings | 1908 - 1942   | 1965853  |
| D  | 286m W   | Old Gravel Pits             | 1908          | 1894597  |
| E  | 295m W   | Unspecified Works           | 1967          | 1860097  |
| D  | 319m W   | Unspecified Heap            | 1908          | 1869012  |
| F  | 332m N   | Gravel Pit                  | 1967          | 1936095  |
| F  | 346m N   | Gravel Pit                  | 1942 - 1957   | 1963464  |
| G  | 346m SE  | Windmill                    | 1895          | 1957774  |
| F  | 356m N   | Gravel Pit                  | 1957          | 1901407  |
| G  | 367m SE  | Corn Windmill               | 1868          | 1864767  |
| G  | 388m SE  | Unspecified Tank            | 1967          | 1857231  |
| G  | 388m SE  | Disused Windmill            | 1987 - 1993   | 1893744  |
| G  | 388m SE  | Disused Windmill            | 1977          | 1940120  |
| 11 | 388m W   | Old Gravel Pits             | 1908          | 1949614  |
| 12 | 389m NE  | Cuttings                    | 1977          | 1952498  |
| 13 | 395m NE  | Cuttings                    | 1987 - 1993   | 1931377  |
| G  | 395m SE  | Windmill                    | 1957          | 1917381  |
| G  | 396m SE  | Unspecified Tank            | 1908 - 1942   | 1904080  |
| G  | 397m SE  | Unspecified Windmill        | 1898          | 1909984  |
| G  | 397m SE  | Old Windmill                | 1908          | 1921110  |



| ID | Location | Land use                    | Dates present | Group ID |
|----|----------|-----------------------------|---------------|----------|
| G  | 398m SE  | Unspecified Windmill        | 1957          | 1900720  |
| G  | 400m SE  | Old Windmill                | 1908          | 1875004  |
| L  | 416m W   | Old Gravel Pit              | 1908          | 1958640  |
| L  | 416m W   | Unspecified Ground Workings | 1942          | 1851466  |
| L  | 417m W   | Old Gravel Pit              | 1908          | 1922716  |
| G  | 417m SE  | Unspecified Tank            | 1942          | 1857230  |
| 14 | 436m NW  | Unspecified Pit             | 1868          | 1876822  |
| 15 | 494m NE  | Cuttings                    | 1987 - 1993   | 1914041  |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.2 Historical tanks

### Records within 500m

1

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

| ID | Location | Land use         | Dates present | Group ID |
|----|----------|------------------|---------------|----------|
| 6  | 214m E   | Unspecified Tank | 1965          | 302875   |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.3 Historical energy features

### Records within 500m

17

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)



| ID | Location | Land use               | Dates present | Group ID |
|----|----------|------------------------|---------------|----------|
| 2  | 17m NW   | Gas Governor           | 1987          | 191797   |
| 3  | 142m W   | Electricity Substation | 1970 - 1997   | 205631   |
| 4  | 159m NW  | Electricity Substation | 1993 - 1996   | 210364   |
| 5  | 191m NE  | Electricity Substation | 1983 - 1993   | 200933   |
| 7  | 249m S   | Electricity Substation | 1975          | 187951   |
| 9  | 284m N   | Electricity Substation | 1970 - 1996   | 199126   |
| E  | 332m W   | Electricity Substation | 1987          | 188267   |
| E  | 337m W   | Electricity Substation | 1997          | 188269   |
| H  | 372m NW  | Electricity Substation | 1970 - 1989   | 197832   |
| H  | 374m NW  | Electricity Substation | 1993 - 1996   | 206730   |
| 10 | 385m S   | Electricity Substation | 1985 - 1993   | 209438   |
| J  | 391m NW  | Electricity Substation | 1989 - 1996   | 200573   |
| J  | 392m NW  | Electricity Substation | 1970          | 196696   |
| K  | 398m SE  | Electricity Substation | 1987          | 187952   |
| K  | 402m SE  | Electricity Substation | 1988 - 1993   | 202775   |
| M  | 452m N   | Electricity Substation | 1990 - 1995   | 200926   |
| M  | 463m N   | Electricity Substation | 1970 - 1996   | 202235   |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.4 Historical petrol stations

### Records within 500m

2

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

| ID | Location | Land use        | Dates present | Group ID |
|----|----------|-----------------|---------------|----------|
| A  | 1m NE    | Filling Station | 1970          | 3452     |



| ID | Location | Land use        | Dates present | Group ID |
|----|----------|-----------------|---------------|----------|
| A  | 3m NE    | Filling Station | 1970          | 3392     |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.5 Historical garages

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>6</b> |
|----------------------------|----------|

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

| ID | Location | Land use | Dates present | Group ID |
|----|----------|----------|---------------|----------|
| C  | 37m W    | Garage   | 1965 - 1970   | 63335    |
| C  | 41m W    | Garage   | 1970          | 61825    |
| C  | 42m W    | Garage   | 1987 - 1997   | 64785    |
| I  | 380m W   | Garage   | 1989          | 62602    |
| I  | 381m W   | Garage   | 1970          | 65317    |
| I  | 388m W   | Garage   | 1965          | 61100    |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.6 Historical military land

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

*This data is sourced from Ordnance Survey / Groundsure / other sources.*



[illegible]

- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
  - Historical tanks
  - Historical energy features
  - Historical petrol stations
  - Historical garages

|                     |    |
|---------------------|----|
| Records within 500m | 51 |
|---------------------|----|

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

| ID | Location | Land Use   | Date | Group ID |
|----|----------|------------|------|----------|
| B  | 13m SW   | Gravel Pit | 1908 | 1915505  |
| B  | 15m SW   | Gravel Pit | 1908 | 1932269  |
| B  | 15m SW   | Gravel Pit | 1908 | 1932269  |

| ID | Location | Land Use                    | Date | Group ID |
|----|----------|-----------------------------|------|----------|
| C  | 16m W    | Ambulance Station           | 1993 | 1893039  |
| C  | 16m W    | Ambulance Station           | 1987 | 1893039  |
| B  | 16m SW   | Gravel Pit                  | 1898 | 1956850  |
| B  | 17m SW   | Old Gravel Pit              | 1942 | 1959788  |
| B  | 18m SW   | Gravel Pit                  | 1895 | 1911428  |
| B  | 21m SW   | Unspecified Pit             | 1868 | 1876823  |
| B  | 23m SW   | Old Gravel Pit              | 1957 | 1926977  |
| B  | 24m SW   | Old Gravel Pit              | 1957 | 1916797  |
| B  | 24m SW   | Old Gravel Pit              | 1957 | 1916797  |
| 4  | 272m NW  | Unspecified Heap            | 1967 | 1869013  |
| H  | 284m W   | Unspecified Ground Workings | 1942 | 1965853  |
| H  | 285m W   | Unspecified Ground Workings | 1908 | 1965853  |
| H  | 286m W   | Old Gravel Pits             | 1908 | 1894597  |
| H  | 286m W   | Old Gravel Pits             | 1908 | 1894597  |
| J  | 295m W   | Unspecified Works           | 1967 | 1860097  |
| H  | 319m W   | Unspecified Heap            | 1908 | 1869012  |
| K  | 332m N   | Gravel Pit                  | 1967 | 1936095  |
| K  | 346m N   | Gravel Pit                  | 1957 | 1963464  |
| K  | 346m N   | Gravel Pit                  | 1957 | 1963464  |
| L  | 346m SE  | Windmill                    | 1895 | 1957774  |
| K  | 348m N   | Gravel Pit                  | 1942 | 1963464  |
| K  | 356m N   | Gravel Pit                  | 1957 | 1901407  |
| L  | 367m SE  | Corn Windmill               | 1868 | 1864767  |
| L  | 388m SE  | Disused Windmill            | 1993 | 1893744  |
| L  | 388m SE  | Unspecified Tank            | 1967 | 1857231  |
| L  | 388m SE  | Disused Windmill            | 1987 | 1893744  |
| L  | 388m SE  | Disused Windmill            | 1977 | 1940120  |
| 5  | 388m W   | Old Gravel Pits             | 1908 | 1949614  |



| ID | Location | Land Use                    | Date | Group ID |
|----|----------|-----------------------------|------|----------|
| 6  | 389m NE  | Cuttings                    | 1977 | 1952498  |
| Q  | 395m NE  | Cuttings                    | 1993 | 1931377  |
| Q  | 395m NE  | Cuttings                    | 1987 | 1931377  |
| L  | 395m SE  | Windmill                    | 1957 | 1917381  |
| L  | 396m SE  | Unspecified Tank            | 1942 | 1904080  |
| L  | 397m SE  | Unspecified Windmill        | 1898 | 1909984  |
| L  | 397m SE  | Old Windmill                | 1908 | 1921110  |
| L  | 397m SE  | Old Windmill                | 1908 | 1921110  |
| L  | 398m SE  | Unspecified Tank            | 1908 | 1904080  |
| L  | 398m SE  | Unspecified Windmill        | 1957 | 1900720  |
| L  | 398m SE  | Unspecified Windmill        | 1957 | 1900720  |
| L  | 400m SE  | Old Windmill                | 1908 | 1875004  |
| S  | 416m W   | Old Gravel Pit              | 1908 | 1958640  |
| S  | 416m W   | Unspecified Ground Workings | 1942 | 1851466  |
| S  | 417m W   | Old Gravel Pit              | 1908 | 1922716  |
| S  | 417m W   | Old Gravel Pit              | 1908 | 1922716  |
| L  | 417m SE  | Unspecified Tank            | 1942 | 1857230  |
| 7  | 436m NW  | Unspecified Pit             | 1868 | 1876822  |
| U  | 494m NE  | Cuttings                    | 1993 | 1914041  |
| U  | 494m NE  | Cuttings                    | 1987 | 1914041  |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

### Records within 500m

1

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)



| ID | Location | Land Use         | Date | Group ID |
|----|----------|------------------|------|----------|
| 2  | 214m E   | Unspecified Tank | 1965 | 302875   |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

|                            |           |
|----------------------------|-----------|
| <b>Records within 500m</b> | <b>37</b> |
|----------------------------|-----------|

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

| ID | Location | Land Use               | Date | Group ID |
|----|----------|------------------------|------|----------|
| 1  | 17m NW   | Gas Governor           | 1987 | 191797   |
| E  | 142m W   | Electricity Substation | 1970 | 205631   |
| E  | 142m W   | Electricity Substation | 1970 | 205631   |
| E  | 143m W   | Electricity Substation | 1997 | 205631   |
| E  | 143m W   | Electricity Substation | 1987 | 205631   |
| F  | 159m NW  | Electricity Substation | 1996 | 210364   |
| F  | 159m NW  | Electricity Substation | 1993 | 210364   |
| G  | 191m NE  | Electricity Substation | 1983 | 200933   |
| G  | 192m NE  | Electricity Substation | 1993 | 200933   |
| 3  | 249m S   | Electricity Substation | 1975 | 187951   |
| I  | 284m N   | Electricity Substation | 1996 | 199126   |
| I  | 285m N   | Electricity Substation | 1990 | 199126   |
| I  | 285m N   | Electricity Substation | 1970 | 199126   |
| I  | 286m N   | Electricity Substation | 1970 | 199126   |
| J  | 332m W   | Electricity Substation | 1987 | 188267   |
| J  | 337m W   | Electricity Substation | 1997 | 188269   |
| M  | 372m NW  | Electricity Substation | 1989 | 197832   |
| M  | 372m NW  | Electricity Substation | 1970 | 197832   |
| M  | 374m NW  | Electricity Substation | 1970 | 197832   |



| ID | Location | Land Use               | Date | Group ID |
|----|----------|------------------------|------|----------|
| M  | 374m NW  | Electricity Substation | 1996 | 206730   |
| M  | 374m NW  | Electricity Substation | 1993 | 206730   |
| O  | 385m S   | Electricity Substation | 1985 | 209438   |
| O  | 386m S   | Electricity Substation | 1988 | 209438   |
| O  | 386m S   | Electricity Substation | 1993 | 209438   |
| P  | 391m NW  | Electricity Substation | 1989 | 200573   |
| P  | 392m NW  | Electricity Substation | 1970 | 196696   |
| P  | 392m NW  | Electricity Substation | 1996 | 200573   |
| P  | 392m NW  | Electricity Substation | 1993 | 200573   |
| P  | 393m NW  | Electricity Substation | 1970 | 196696   |
| R  | 398m SE  | Electricity Substation | 1987 | 187952   |
| R  | 402m SE  | Electricity Substation | 1993 | 202775   |
| R  | 402m SE  | Electricity Substation | 1988 | 202775   |
| T  | 452m N   | Electricity Substation | 1990 | 200926   |
| T  | 463m N   | Electricity Substation | 1996 | 202235   |
| T  | 465m N   | Electricity Substation | 1970 | 202235   |
| T  | 467m N   | Electricity Substation | 1970 | 202235   |
| 8  | 486m N   | Electricity Substation | 1995 | 200926   |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.4 Historical petrol stations

### Records within 500m

2

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

| ID | Location | Land Use        | Date | Group ID |
|----|----------|-----------------|------|----------|
| A  | 1m NE    | Filling Station | 1970 | 3452     |
| A  | 3m NE    | Filling Station | 1970 | 3392     |



*This data is sourced from Ordnance Survey / Groundsure.*

## 2.5 Historical garages

### Records within 500m

**9**

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

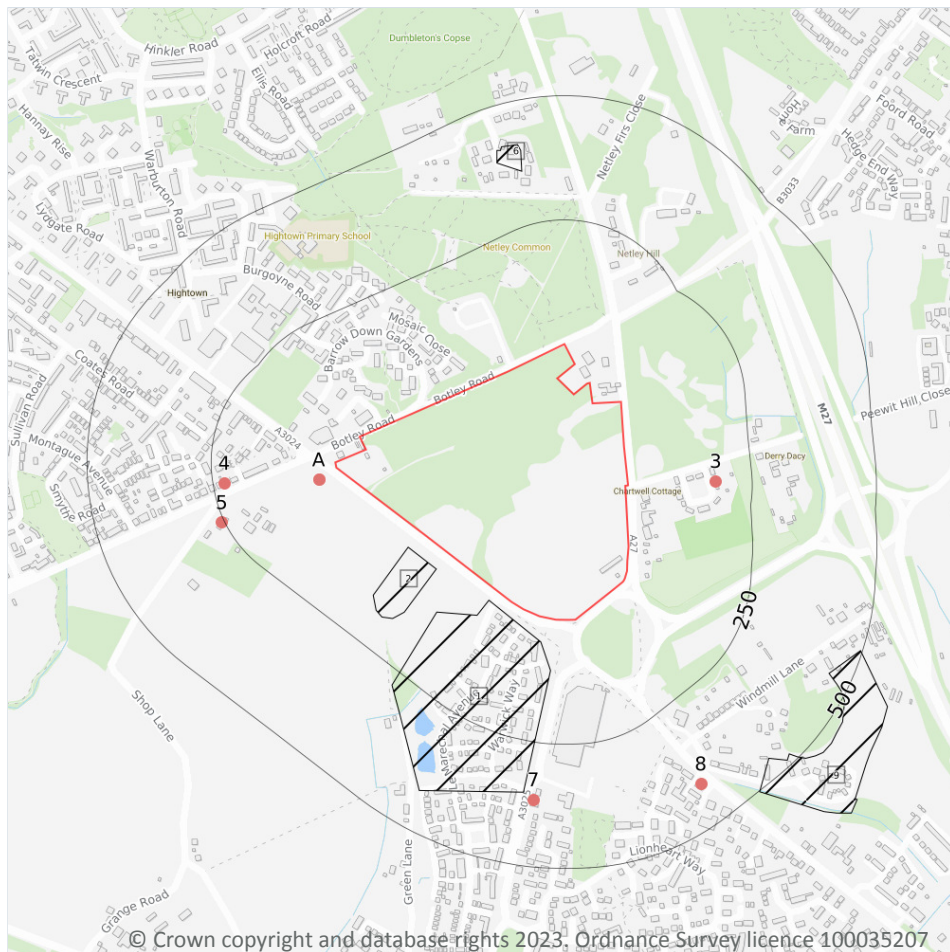
| ID | Location | Land Use | Date | Group ID |
|----|----------|----------|------|----------|
| D  | 37m W    | Garage   | 1965 | 63335    |
| D  | 38m W    | Garage   | 1970 | 63335    |
| D  | 41m W    | Garage   | 1970 | 61825    |
| D  | 42m W    | Garage   | 1987 | 64785    |
| D  | 47m W    | Garage   | 1997 | 64785    |
| N  | 380m W   | Garage   | 1989 | 62602    |
| N  | 381m W   | Garage   | 1970 | 65317    |
| N  | 381m W   | Garage   | 1970 | 65317    |
| N  | 388m W   | Garage   | 1965 | 61100    |

*This data is sourced from Ordnance Survey / Groundsure.*





## 3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Waste exemptions

### 3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

*This data is sourced from the British Geological Survey.*



### 3.3 Historical landfill (LA/mapping records)

Records within 500m

0

Landfill sites identified from Local Authority records and high detail historical mapping.

*This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.*

### 3.4 Historical landfill (EA/NRW records)

Records within 500m

4

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on [page 25 >](#)

| ID | Location | Details                                                                                                                                               |                                                                                                                                                                                           |                                                                                           |
|----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 1  | 25m S    | Site Address: Car Boot Sale Site,<br>Bursledon Road<br>Licence Holder Address: -                                                                      | Waste Licence: -<br>Site Reference: FEA28<br>Waste Type: Household<br>Environmental Permitting Regulations<br>(Waste) Reference: -<br>Licence Issue: -<br>Licence Surrender: -            | Operator: -<br>Licence Holder: -<br>First Recorded -<br>Last Recorded: -                  |
| 2  | 40m SW   | Site Address: Land Adjacent to<br>Bursledon Road, Hightown,<br>Southampton<br>Licence Holder Address: -                                               | Waste Licence: -<br>Site Reference: FEA20<br>Waste Type: Household<br>Environmental Permitting Regulations<br>(Waste) Reference: -<br>Licence Issue: -<br>Licence Surrender: -            | Operator: -<br>Licence Holder: -<br>First Recorded -<br>Last Recorded: -                  |
| 6  | 358m N   | Site Address: Kanes Hill Gravel Pit,<br>Pinewood Park, West End, Hampshire<br>Licence Holder Address: 27 Nobs Crook<br>Lane, Goldon Common, Hampshire | Waste Licence: Yes<br>Site Reference: 9/7, FEA5<br>Waste Type: Inert<br>Environmental Permitting Regulations<br>(Waste) Reference: -<br>Licence Issue: 19/04/1977<br>Licence Surrender: - | Operator: -<br>Licence Holder: A J Mills<br>First Recorded 01/06/1947<br>Last Recorded: - |
| 9  | 453m SE  | Site Address: Providence Hill,<br>Bursledon, Hampshire<br>Licence Holder Address: -                                                                   | Waste Licence: -<br>Site Reference: FEA31, EAST 7<br>Waste Type: Inert<br>Environmental Permitting Regulations<br>(Waste) Reference: -<br>Licence Issue: -<br>Licence Surrender: -        | Operator: -<br>Licence Holder: -<br>First Recorded -<br>Last Recorded: -                  |



*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 3.5 Historical waste sites

**Records within 500m**

**0**

Waste site records derived from Local Authority planning records and high detail historical mapping.

*This data is sourced from Ordnance Survey/Groundsure and Local Authority records.*

### 3.6 Licensed waste sites

**Records within 500m**

**0**

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 3.7 Waste exemptions

**Records within 500m**

**7**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 25 >](#)

| ID | Location | Site                                                          | Reference | Category                 | Sub-Category  | Description                                              |
|----|----------|---------------------------------------------------------------|-----------|--------------------------|---------------|----------------------------------------------------------|
| A  | 44m W    | -                                                             | WEX229341 | Storing waste exemption  | Not on a farm | Storage of waste in a secure place                       |
| A  | 44m W    | -                                                             | WEX229341 | Using waste exemption    | Not on a farm | Use of waste in construction                             |
| 3  | 176m E   | FIR TREE FARM, PEWITT HILL, BURSLEDON, SO31 8BL               | WEX121999 | Using waste exemption    | On a farm     | Use of waste in construction                             |
| 4  | 228m W   | COLES YARD, BOTLEY ROAD, BURSLEDON, SOUTHAMPTON, SO19 0NL     | WEX111399 | Using waste exemption    | Not on a farm | Use of waste in construction                             |
| 5  | 257m W   | SHOP LANE, SOUTHAMPTON, SO19 0QS                              | WEX237540 | Using waste exemption    | Not on a farm | Use of waste in construction                             |
| 7  | 367m S   | BEAUFORT HOUSE, HAMBLE LANE, BURSLEDON, SOUTHAMPTON, SO31 8BR | WEX342513 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |

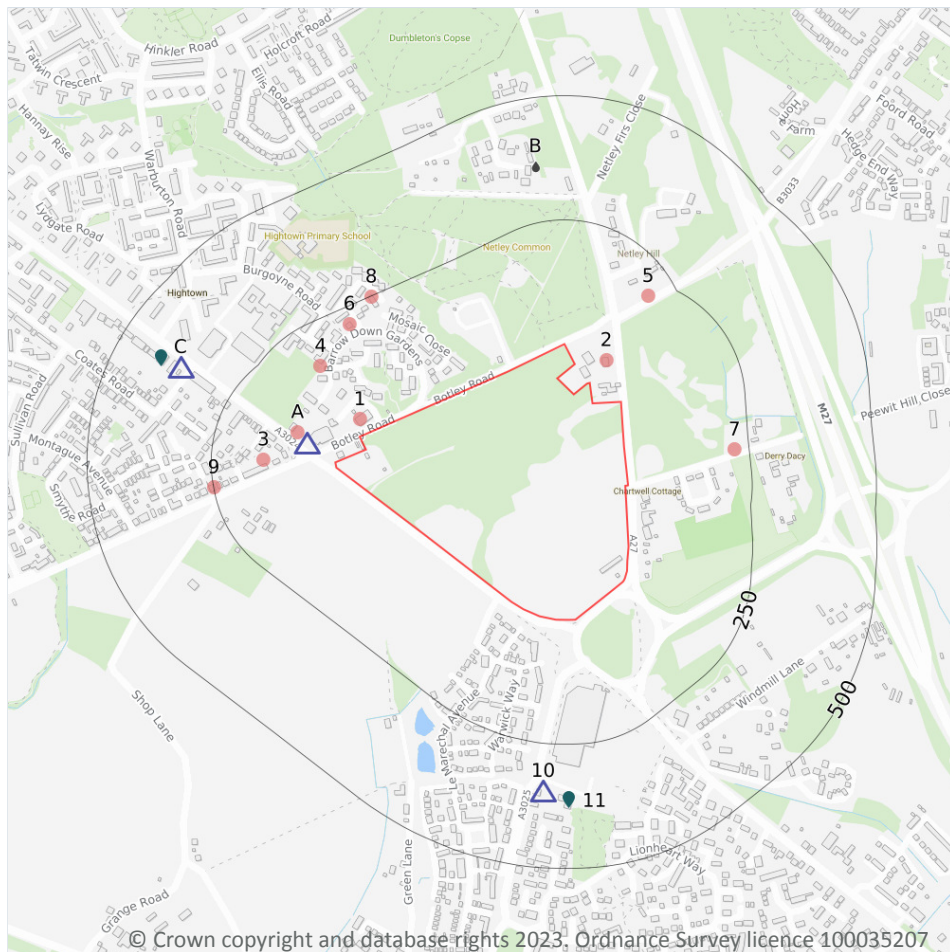


| ID | Location | Site                                                                          | Reference | Category                 | Sub-Category     | Description                  |
|----|----------|-------------------------------------------------------------------------------|-----------|--------------------------|------------------|------------------------------|
| 8  | 417m SE  | C/O FOREMAN HOMES,<br>PROVIDENCE HILL,<br>BURSLEDON,<br>SOUTHAMPTON, SO31 8JZ | WEX213888 | Using waste<br>exemption | Not on a<br>farm | Use of waste in construction |

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- △ Current or recent petrol stations
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters

### 4.1 Recent industrial land uses

Records within 250m

10

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 29](#) >

| ID | Location | Company                            | Address                                                    | Activity                                      | Category                |
|----|----------|------------------------------------|------------------------------------------------------------|-----------------------------------------------|-------------------------|
| 1  | 32m NW   | Hightown Ambulance Resource Centre | Hampshire, SO19                                            | Ambulance and Medical Transportation Services | Health Support Services |
| 2  | 56m NE   | Viscount Leisure                   | West End Road, Bursledon, Southampton, Hampshire, SO31 8BN | New Vehicles                                  | Motoring                |



| ID | Location | Company                 | Address                                                   | Activity                                     | Category                      |
|----|----------|-------------------------|-----------------------------------------------------------|----------------------------------------------|-------------------------------|
| A  | 98m W    | Hamble Motors Ltd       | 493-495, Bursledon Road, Southampton, Hampshire, SO19 8NJ | New Vehicles                                 | Motoring                      |
| 3  | 145m W   | Electricity Sub Station | Hampshire, SO19                                           | Electrical Features                          | Infrastructure and Facilities |
| 4  | 162m NW  | Electricity Sub Station | Hampshire, SO19                                           | Electrical Features                          | Infrastructure and Facilities |
| 5  | 194m NE  | Electricity Sub Station | Hampshire, SO19                                           | Electrical Features                          | Infrastructure and Facilities |
| 6  | 216m NW  | K M Cars                | 3, Flint Close, Southampton, Hampshire, SO19 6RQ          | Secondhand Vehicles                          | Motoring                      |
| 7  | 220m E   | Electricity Poles       | Hampshire, SO31                                           | Electrical Features                          | Infrastructure and Facilities |
| 8  | 249m NW  | Gripclad Ltd            | 39, Flint Close, Southampton, Hampshire, SO19 6RQ         | Carpets, Flooring, Rugs and Soft Furnishings | Consumer Products             |
| 9  | 250m W   | A B Jones               | 235, Botley Road, Southampton, Hampshire, SO19 0NL        | Rubber, Silicones and Plastics               | Industrial Products           |

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>3</b> |
|----------------------------|----------|

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 29 >](#)

| ID | Location | Company     | Address                                                        | LPG            | Status   |
|----|----------|-------------|----------------------------------------------------------------|----------------|----------|
| A  | 70m W    | OBSOLETE    | Bursledon Road, Hightown, Southampton, Southampton, SO19 8NJ   | Not Applicable | Obsolete |
| 10 | 346m S   | TESCO EXTRA | Hamble Lane, Bursledon, Southampton, Hampshire, SO31 8GN       | No             | Open     |
| C  | 366m W   | BP          | 430, Bursledon Road, Sholing, Southampton, Hampshire, SO19 8NG | Yes            | Open     |

*This data is sourced from Experian.*





### 4.3 Electricity cables

**Records within 500m****0**

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

### 4.4 Gas pipelines

**Records within 500m****0**

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

### 4.5 Sites determined as Contaminated Land

**Records within 500m****0**

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

*This data is sourced from Local Authority records.*

### 4.6 Control of Major Accident Hazards (COMAH)

**Records within 500m****0**

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

*This data is sourced from the Health and Safety Executive.*

### 4.7 Regulated explosive sites

**Records within 500m****0**

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

*This data is sourced from the Health and Safety Executive.*

## 4.8 Hazardous substance storage/usage

### Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

### Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.10 Licensed industrial activities (Part A(1))

### Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.11 Licensed pollutant release (Part A(2)/B)

### Records within 500m

2

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on [page 29 >](#)

| ID | Location | Address                                              | Details                                                                                                        |                                                                                                                             |
|----|----------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 11 | 362m S   | Tesco, Hamble Lane, Bursledon, Southampton, SO31 8GN | Process: Unloading of Petrol into Storage at Service Stations<br>Status: Current Permit<br>Permit Type: Part B | Enforcement: No Enforcements Notified<br>Date of enforcement: No Enforcements Notified<br>Comment: No Enforcements Notified |
| C  | 408m W   | Sholing SF Connect, 430 Bursledon Road, SO19 8NG     | Process: Unloading of Petrol into Storage at Service Stations<br>Status: Current Permit<br>Permit Type: Part B | Enforcement: No Enforcement Notified<br>Date of enforcement: No Enforcement Notified<br>Comment: No Enforcement Notified    |

*This data is sourced from Local Authority records.*



## 4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.13 Licensed Discharges to controlled waters

Records within 500m

3

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on [page 29](#) >

| ID | Location | Address                                                                        | Details                                                                                                                                                   |                                                                                                                                                                  |
|----|----------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B  | 362m N   | DUMBLETON CLOSE (14 HOUSES), DUMBLETON CLOSE, SOUTHAMPTON, HAMPSHIRE, SO19 6AP | Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY<br>Permit Number: P05702<br>Permit Version: 2<br>Receiving Water: INTO LAND | Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY)<br>Issue date: 15/10/2001<br>Effective Date: 15/10/2001<br>Revocation Date: 20/12/2012 |
| B  | 362m N   | DUMBLETON CLOSE (14 HOUSES), DUMBLETON CLOSE, SOUTHAMPTON, HAMPSHIRE, SO19 6AP | Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY<br>Permit Number: P05702<br>Permit Version: 1<br>Receiving Water: INTO LAND | Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY)<br>Issue date: 03/05/1995<br>Effective Date: 03/05/1995<br>Revocation Date: 14/10/2001 |
| B  | 362m N   | DUMBLETON CLOSE (14 HOUSES), DUMBLETON CLOSE, SOUTHAMPTON, HAMPSHIRE, SO19 6AP | Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY<br>Permit Number: P05702<br>Permit Version: 3<br>Receiving Water: INTO LAND | Status: VARIED UNDER EPR 2010<br>Issue date: 21/12/2012<br>Effective Date: 21/12/2012<br>Revocation Date: -                                                      |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

*This data is sourced from the Environment Agency and Natural Resources Wales.*



#### 4.15 Pollutant release to public sewer

**Records within 500m****0**

Discharges of Special Category Effluents to the public sewer.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

#### 4.16 List 1 Dangerous Substances

**Records within 500m****0**

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

#### 4.17 List 2 Dangerous Substances

**Records within 500m****0**

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

#### 4.18 Pollution Incidents (EA/NRW)

**Records within 500m****0**

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

#### 4.19 Pollution inventory substances

**Records within 500m****0**

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

## 4.20 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

## 4.21 Pollution inventory radioactive waste

Records within 500m

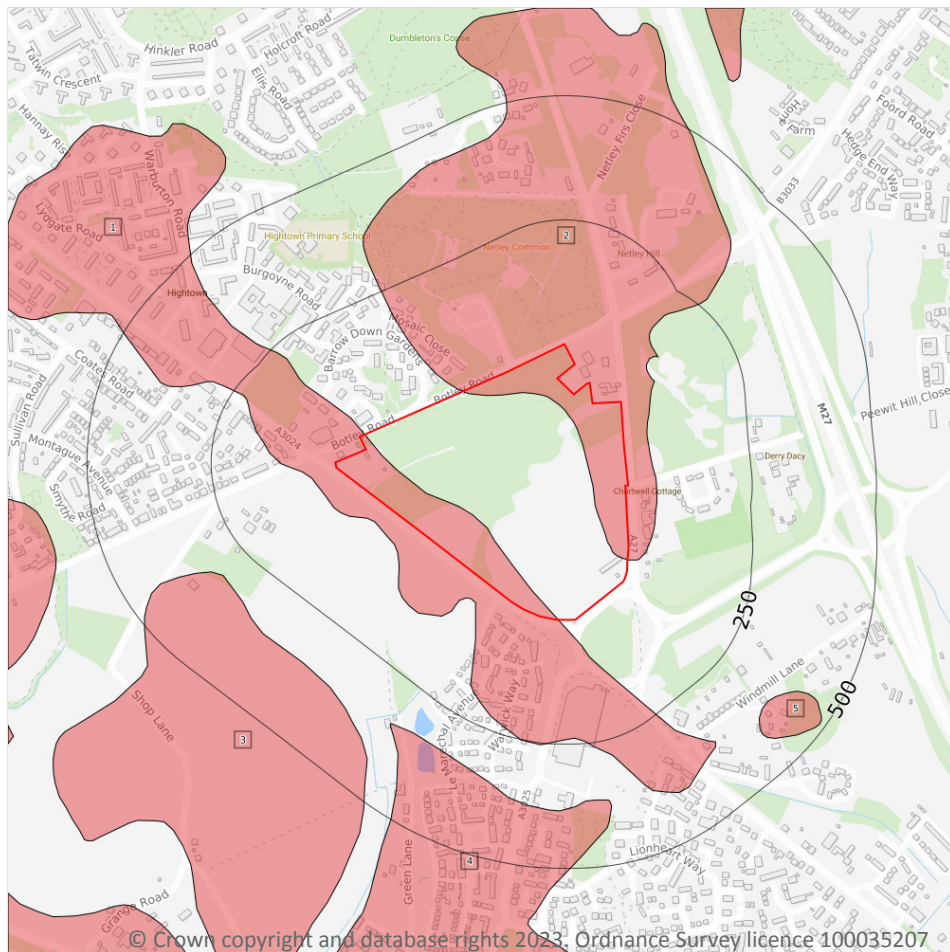
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*



## 5 Hydrogeology - Superficial aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
  - Secondary A
  - Secondary B
  - Secondary Undifferentiated
  - Unproductive
  - Unknown

### 5.1 Superficial aquifer

Records within 500m

5

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 36](#) >

| ID | Location | Designation | Description                                                                                                                                                                                                                            |
|----|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | 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  | 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 |



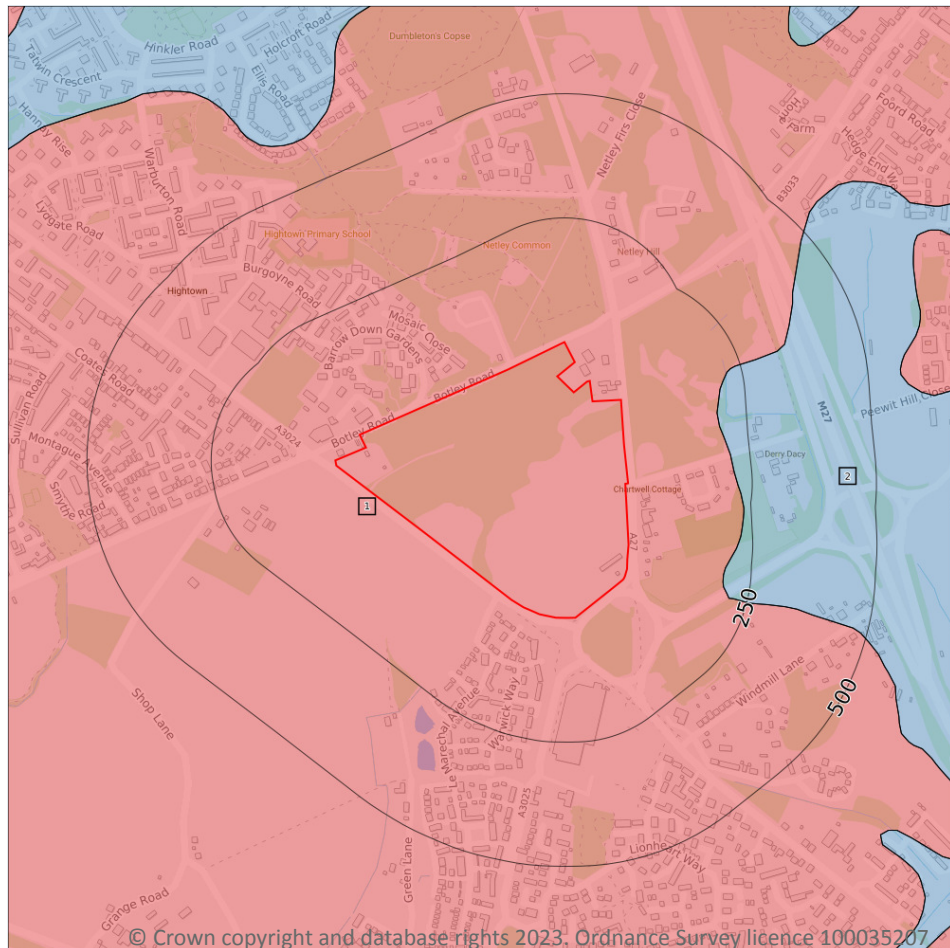


| ID | Location | Designation | Description                                                                                                                                                                                                                            |
|----|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3  | 315m W   | Secondary A | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 4  | 328m S   | 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 |
| 5  | 378m SE  | 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 |

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*



## Bedrock aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
  - Secondary A
  - Secondary B
  - Secondary Undifferentiated
  - Unproductive

### 5.2 Bedrock aquifer

#### Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

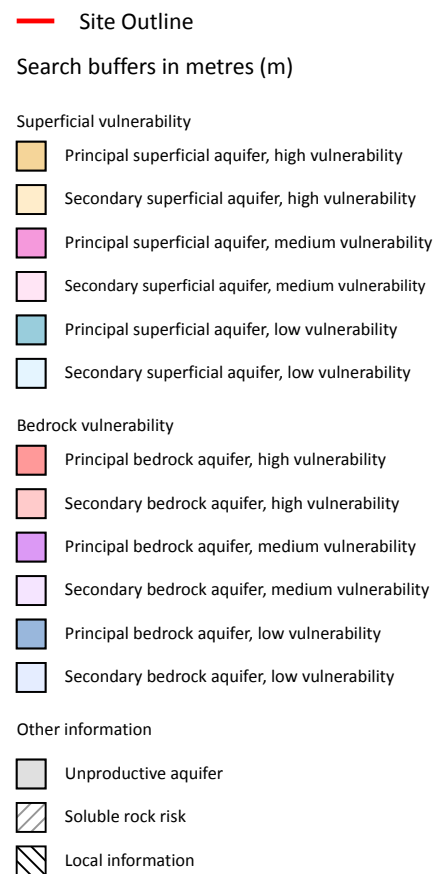
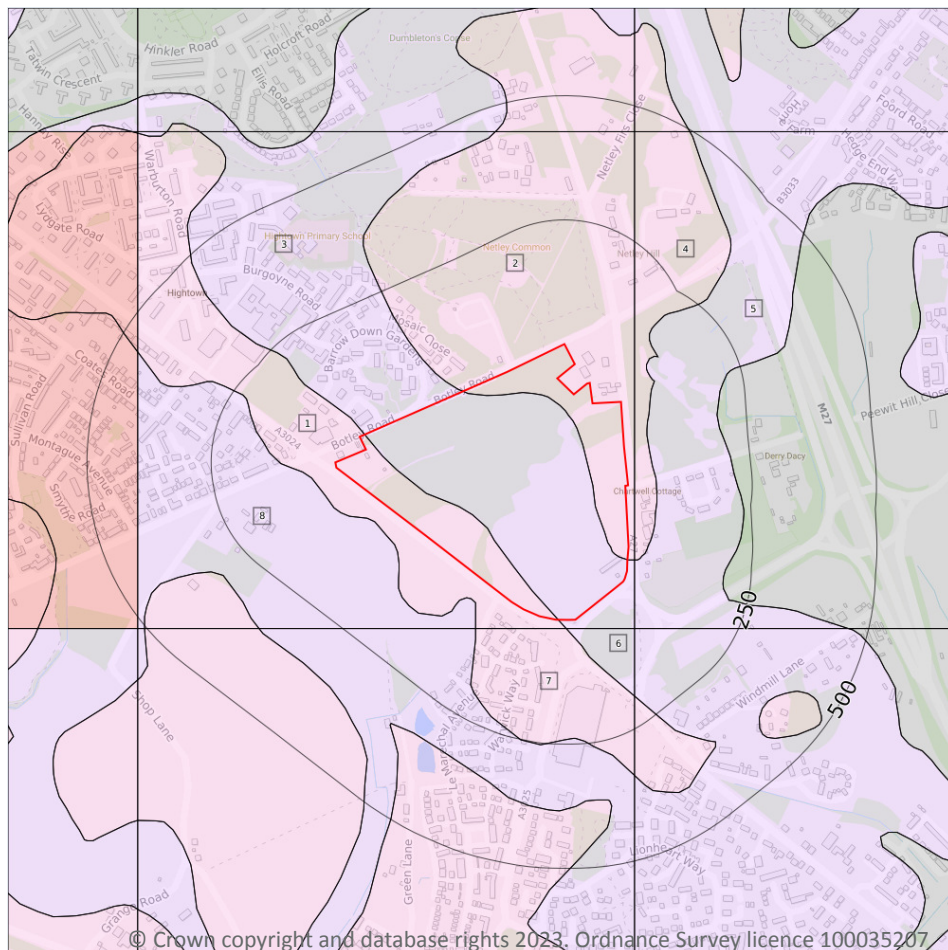
Features are displayed on the Bedrock aquifer map on [page 38](#) >

| ID | Location | Designation  | Description                                                                                                                                                                                                                            |
|----|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | 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  | 191m E   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow                                                                                                    |

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*



## Groundwater vulnerability



### 5.3 Groundwater vulnerability

#### Records within 50m

8

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 39](#) >



| ID | Location | Summary                                                                                                                                                                                          | Soil / surface                                                                                                         | Superficial geology                                                                                                                                              | Bedrock geology                                                                                                 |
|----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 1  | On site  | <b>Summary Classification:</b><br>Secondary superficial aquifer<br>- Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>Productive Superficial<br>Aquifer | <b>Leaching class:</b> Low<br><b>Infiltration value:</b> 40-<br>70%<br><b>Dilution value:</b> 300-<br>550mm/year       | <b>Vulnerability:</b> Medium<br><b>Aquifer type:</b> Secondary<br><b>Thickness:</b> <3m<br><b>Patchiness value:</b> <90%<br><b>Recharge potential:</b> No Data   | <b>Vulnerability:</b><br>Medium<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b><br>Mixed         |
| 2  | On site  | <b>Summary Classification:</b><br>Secondary superficial aquifer<br>- Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>Productive Superficial<br>Aquifer | <b>Leaching class:</b> Low<br><b>Infiltration value:</b> 40-<br>70%<br><b>Dilution value:</b> 300-<br>550mm/year       | <b>Vulnerability:</b> Medium<br><b>Aquifer type:</b> Secondary<br><b>Thickness:</b> <3m<br><b>Patchiness value:</b> <90%<br><b>Recharge potential:</b> No Data   | <b>Vulnerability:</b><br>Medium<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b><br>Mixed         |
| 3  | On site  | <b>Summary Classification:</b><br>Secondary bedrock aquifer -<br>Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>No Superficial Aquifer                | <b>Leaching class:</b> Low<br><b>Infiltration value:</b> 40-<br>70%<br><b>Dilution value:</b> 300-<br>550mm/year       | <b>Vulnerability:</b> -<br><b>Aquifer type:</b> -<br><b>Thickness:</b> <3m<br><b>Patchiness value:</b> <90%<br><b>Recharge potential:</b> No Data                | <b>Vulnerability:</b><br>Medium<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b><br>Mixed         |
| 4  | 12m SE   | <b>Summary Classification:</b><br>Secondary superficial aquifer<br>- Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>Productive Superficial Aquifer    | <b>Leaching class:</b> Low<br><b>Infiltration value:</b> 40-<br>70%<br><b>Dilution value:</b> 300-<br>550mm/year       | <b>Vulnerability:</b> Medium<br><b>Aquifer type:</b> Secondary<br><b>Thickness:</b> 3-10m<br><b>Patchiness value:</b> <90%<br><b>Recharge potential:</b> No Data | <b>Vulnerability:</b><br>Medium<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b><br>Mixed         |
| 5  | 14m SE   | <b>Summary Classification:</b><br>Secondary bedrock aquifer -<br>Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>No Superficial Aquifer                | <b>Leaching class:</b> Low<br><b>Infiltration value:</b> 40-<br>70%<br><b>Dilution value:</b> 300-<br>550mm/year       | <b>Vulnerability:</b> -<br><b>Aquifer type:</b> -<br><b>Thickness:</b> 3-10m<br><b>Patchiness value:</b> <90%<br><b>Recharge potential:</b> No Data              | <b>Vulnerability:</b><br>Medium<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b><br>Mixed         |
| 6  | 17m S    | <b>Summary Classification:</b><br>Secondary bedrock aquifer -<br>Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>No Superficial Aquifer                | <b>Leaching class:</b><br>Intermediate<br><b>Infiltration value:</b> >70%<br><b>Dilution value:</b> 300-<br>550mm/year | <b>Vulnerability:</b> -<br><b>Aquifer type:</b> -<br><b>Thickness:</b> <3m<br><b>Patchiness value:</b> <90%<br><b>Recharge potential:</b> No Data                | <b>Vulnerability:</b><br>Medium<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b><br>Intergranular |
| 7  | 17m S    | <b>Summary Classification:</b><br>Secondary superficial aquifer<br>- Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>Productive Superficial Aquifer    | <b>Leaching class:</b><br>Intermediate<br><b>Infiltration value:</b> >70%<br><b>Dilution value:</b> 300-<br>550mm/year | <b>Vulnerability:</b> Medium<br><b>Aquifer type:</b> Secondary<br><b>Thickness:</b> <3m<br><b>Patchiness value:</b> <90%<br><b>Recharge potential:</b> No Data   | <b>Vulnerability:</b><br>Medium<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b><br>Intergranular |



| ID | Location | Summary                                                                                                                                                             | Soil / surface                                                                              | Superficial geology                                                                                            | Bedrock geology                                                                    |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 8  | 40m W    | Summary Classification:<br>Secondary bedrock aquifer -<br>Medium Vulnerability<br>Combined classification:<br>Productive Bedrock Aquifer,<br>No Superficial Aquifer | Leaching class: Low<br>Infiltration value: 40-<br>70%<br>Dilution value: 300-<br>550mm/year | Vulnerability: -<br>Aquifer type: -<br>Thickness: <3m<br>Patchiness value: <90%<br>Recharge potential: No Data | Vulnerability:<br>Medium<br>Aquifer type:<br>Secondary<br>Flow mechanism:<br>Mixed |

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*

## 5.4 Groundwater vulnerability- soluble rock risk

|                        |          |
|------------------------|----------|
| <b>Records on site</b> | <b>0</b> |
|------------------------|----------|

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

*This data is sourced from the British Geological Survey and the Environment Agency.*

## 5.5 Groundwater vulnerability- local information

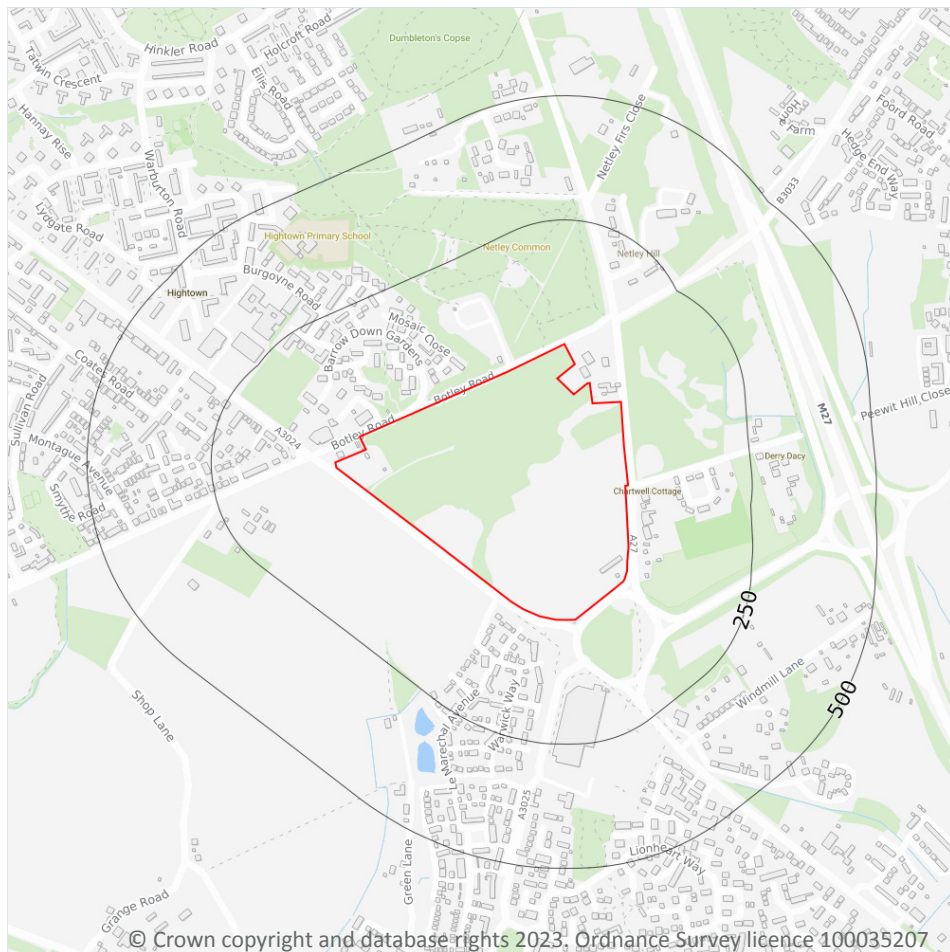
|                        |          |
|------------------------|----------|
| <b>Records on site</b> | <b>0</b> |
|------------------------|----------|

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk) ↗.

*This data is sourced from the British Geological Survey and the Environment Agency.*



## Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1  
Inner catchment
- Source Protection Zone 2  
Outer catchment
- Source Protection Zone 3  
Total catchment
- Source Protection Zone 4  
Zone of Special Interest
- Source Protection Zone 1c  
Inner catchment - confined aquifer
- Source Protection Zone 2c  
Outer catchment - confined aquifer
- Source Protection Zone 3c  
Total catchment - confined aquifer
- Drinking water abstraction licences  
Polygon features
- Drinking water abstraction licences  
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

### 5.6 Groundwater abstractions

#### Records within 2000m

1

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 42 >](#)





| ID | Location | Details                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                 |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1556m E  | Status: Historical<br>Licence No: 11/42/25.10/49<br>Details: General Farming & Domestic<br>Direct Source: Southern Region Groundwater<br>Point: BRIXEDONE FARM WISHING WELL<br>Data Type: Point<br>Name: Game Bros<br>Easting: 449470<br>Northing: 110650 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: -<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 23/12/1965<br>Version End Date: - |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.7 Surface water abstractions

### Records within 2000m

4

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 42 >](#)

| ID | Location | Details                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                              |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1279m S  | Status: Active<br>Licence No: 11/42/24/5CA<br>Details: Spray Irrigation - Direct<br>Direct Source: Southern Region Surface Waters<br>Point: PICKWELL FARM RESERVOIR<br>Data Type: Poly4<br>Name: D & M Draper & Sons<br>Easting: 447168<br>Northing: 109906   | Annual Volume (m <sup>3</sup> ): 13638<br>Max Daily Volume (m <sup>3</sup> ): 545.5<br>Original Application No: NPS/NA/001896<br>Original Start Date: 24/03/1986<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 13/08/2021<br>Version End Date: - |
| -  | 1279m S  | Status: Active<br>Licence No: 11/42/24/5CA<br>Details: Trickle Irrigation - Direct<br>Direct Source: Southern Region Surface Waters<br>Point: PICKWELL FARM RESERVOIR<br>Data Type: Poly4<br>Name: D & M Draper & Sons<br>Easting: 447168<br>Northing: 109906 | Annual Volume (m <sup>3</sup> ): 13638<br>Max Daily Volume (m <sup>3</sup> ): 545.5<br>Original Application No: NPS/NA/001896<br>Original Start Date: 24/03/1986<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 13/08/2021<br>Version End Date: - |



| ID | Location | Details                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                   |
|----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1379m S  | Status: Historical<br>Licence No: 11/42/24/5CA<br>Details: Spray Irrigation - Direct<br>Direct Source: Southern Region Surface Waters<br>Point: PICKWELL FARM IMPOUNDMENT, OLD NETLEY<br>Data Type: Point<br>Name: Draper<br>Easting: 447170<br>Northing: 109800                 | Annual Volume (m <sup>3</sup> ): 13638<br>Max Daily Volume (m <sup>3</sup> ): 545.50<br>Original Application No: -<br>Original Start Date: 24/03/1986<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 11/06/2009<br>Version End Date: - |
| -  | 1564m SW | Status: Historical<br>Licence No: 11/42/23/5CA<br>Details: Mineral Washing<br>Direct Source: Southern Region Surface Waters<br>Point: TICKLEFORD GULLEY IMPOUNDMENT AT BURROWS COPSE<br>Data Type: Point<br>Name: Leigh Environmental Ltd<br>Easting: 446200<br>Northing: 110320 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: -<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 19/06/1991<br>Version End Date: -                   |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.8 Potable abstractions

### Records within 2000m

0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.9 Source Protection Zones

### Records within 500m

0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 5.10 Source Protection Zones (confined aquifer)

Records within 500m

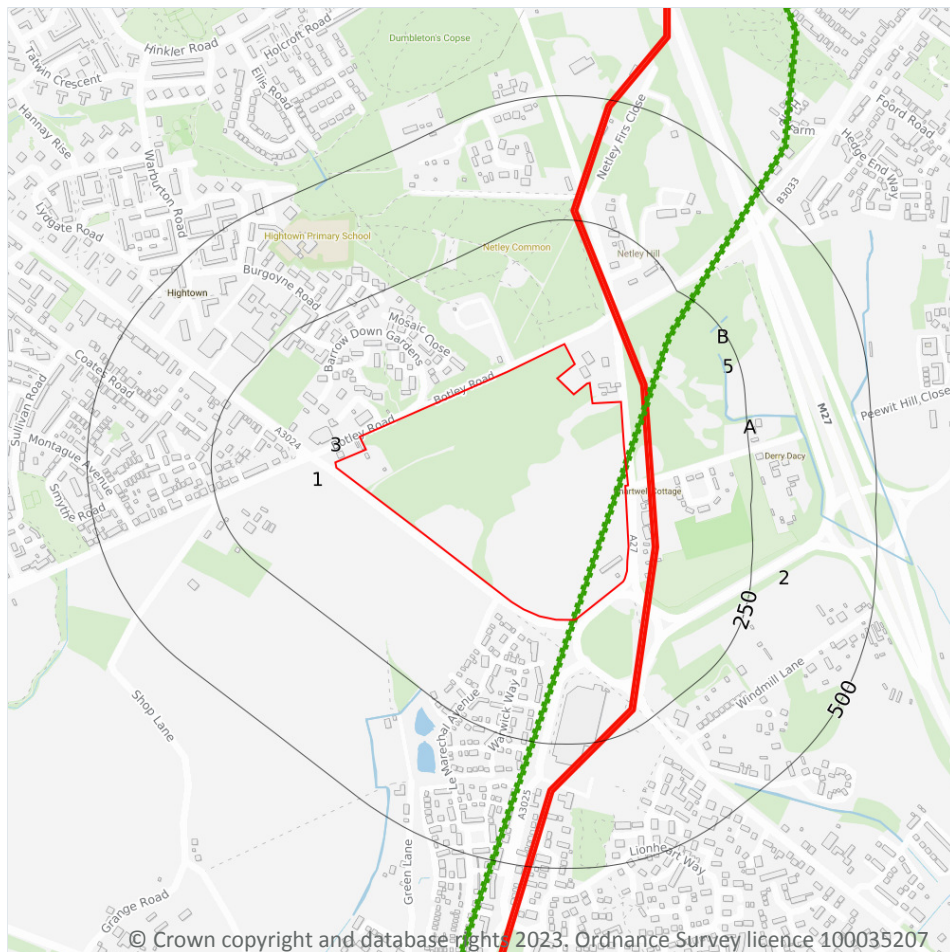
0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

### 6.1 Water Network (OS MasterMap)

Records within 250m

3

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on [page 46 >](#)

| ID | Location | Type of water feature                               | Ground level      | Permanence                                                      | Name |
|----|----------|-----------------------------------------------------|-------------------|-----------------------------------------------------------------|------|
| A  | 208m E   | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | -    |



| ID | Location | Type of water feature                               | Ground level      | Permanence                                                      | Name |
|----|----------|-----------------------------------------------------|-------------------|-----------------------------------------------------------------|------|
| 5  | 218m NE  | Lake, loch or reservoir.                            | On ground surface | Watercourse contains water year round (in normal circumstances) | -    |
| B  | 228m NE  | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | -    |

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

### Records within 250m

2

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 46 >](#)

*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

### Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 46 >](#)

| ID | Location | Type              | Water body catchment             | Water body ID | Operational catchment | Management catchment |
|----|----------|-------------------|----------------------------------|---------------|-----------------------|----------------------|
| 1  | On site  | Coastal Catchment | Not part of a river WB catchment | 60            | Itchen                | Test and Itchen      |

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 6.4 WFD Surface water bodies

### Records identified

**0**

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 6.5 WFD Groundwater bodies

### Records on site

**2**

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on [page 46 >](#)

| ID | Location | Name                               | Water body ID                    | Overall rating | Chemical rating | Quantitative | Year |
|----|----------|------------------------------------|----------------------------------|----------------|-----------------|--------------|------|
| 2  | On site  | South East Hants Bracklesham Group | <a href="#">GB40702G503000</a> ↗ | Poor           | Poor            | Good         | 2019 |
| 3  | On site  | Central Hants Bracklesham Group    | <a href="#">GB40702G500900</a> ↗ | Good           | Good            | Good         | 2019 |

*This data is sourced from the Environment Agency and Natural Resources Wales.*





## 7 River and coastal flooding

### 7.1 Risk of flooding from rivers and the sea

**Records within 50m****0**

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 7.2 Historical Flood Events

**Records within 250m****0**

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 7.3 Flood Defences

**Records within 250m****0**

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## River and coastal flooding - Flood Zones

### 7.6 Flood Zone 2

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 7.7 Flood Zone 3

Records within 50m

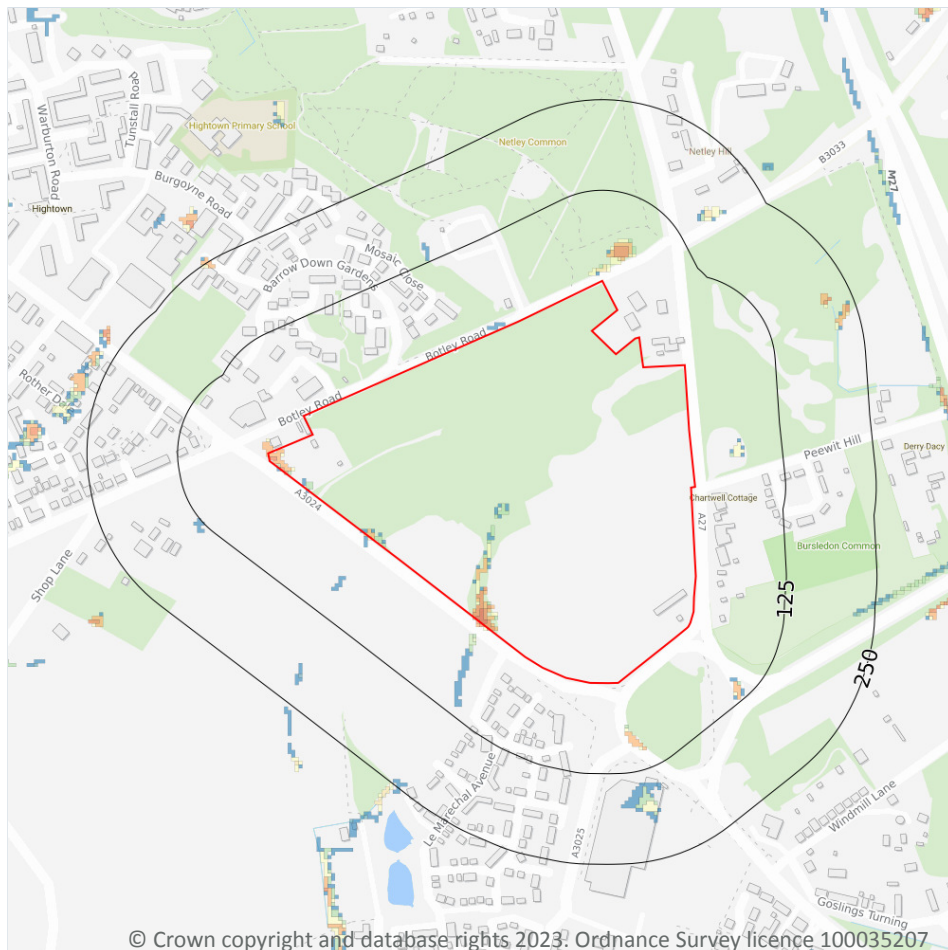
0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

### 8.1 Surface water flooding

**Highest risk on site**

**1 in 30 year, Greater than 1.0m**

**Highest risk within 50m**

**1 in 30 year, Greater than 1.0m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 52 >](#)

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.



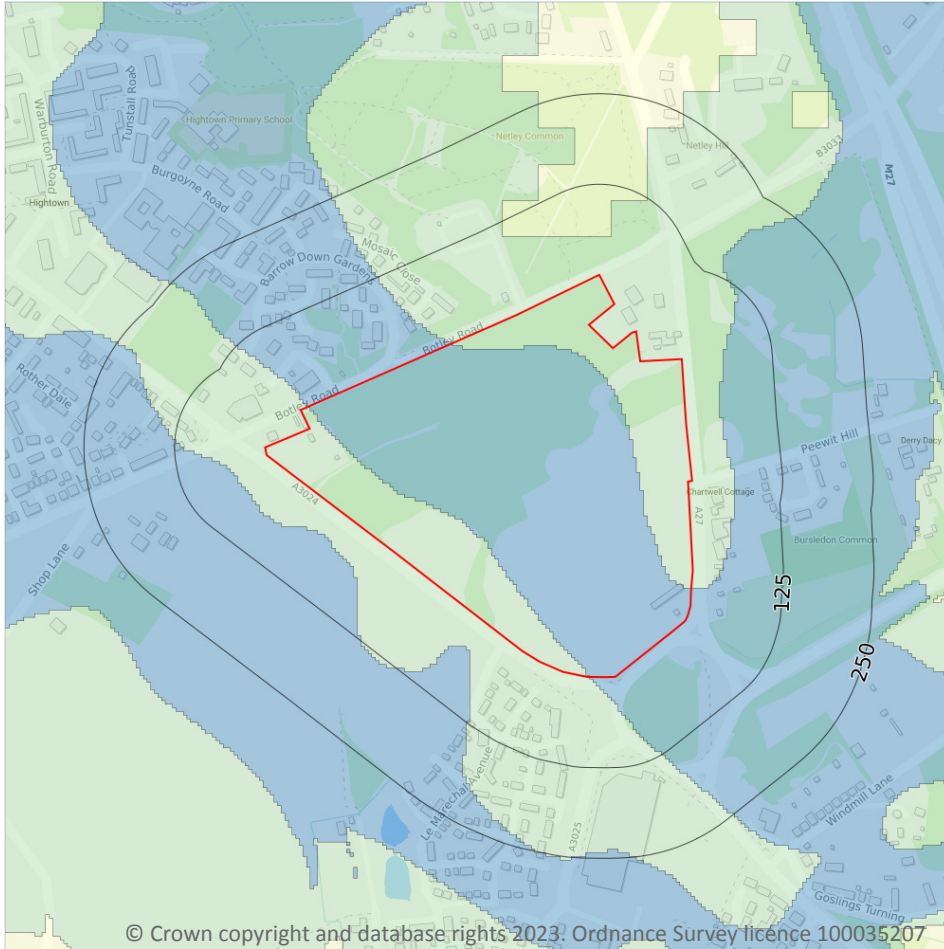
The table below shows the maximum flood depths for a range of return periods for the site.

| Return period  | Maximum modelled depth |
|----------------|------------------------|
| 1 in 1000 year | Greater than 1.0m      |
| 1 in 250 year  | Greater than 1.0m      |
| 1 in 100 year  | Greater than 1.0m      |
| 1 in 30 year   | Greater than 1.0m      |

*This data is sourced from Ambiantal Risk Analytics.*



## 9 Groundwater flooding



— Site Outline  
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

### 9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

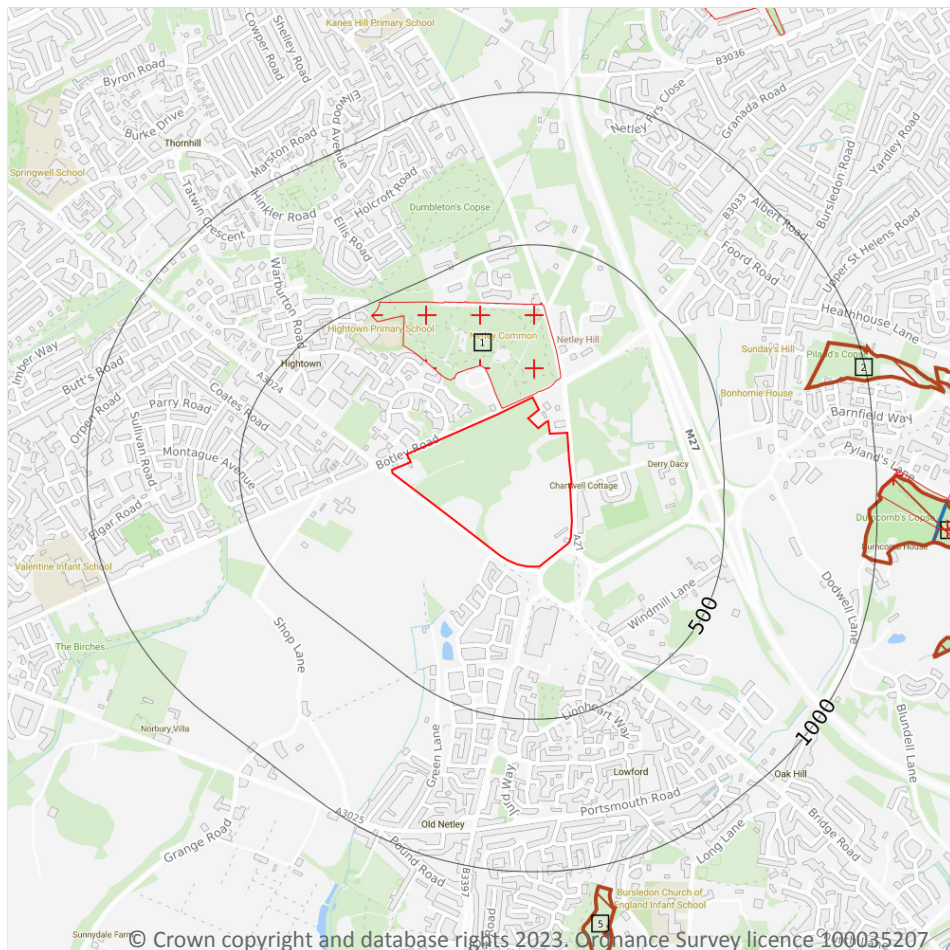
Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 54 >](#)

*This data is sourced from Ambiantal Risk Analytics.*



## 10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- ▤ Sites of Special Scientific Interest (SSSI)
- ✕ Conserved wetland sites (Ramsar sites)
- + Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- + Local Nature Reserves (LNR)
- ▤ Designated Ancient Woodland

### 10.1 Sites of Special Scientific Interest (SSSI)

#### Records within 2000m

1

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on [page 55 >](#)

| ID | Location | Name                           | Data source     |
|----|----------|--------------------------------|-----------------|
| A  | 1186m E  | Upper Hamble Estuary and Woods | Natural England |



*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

1

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

Features are displayed on the Environmental designations map on [page 55 >](#)

| ID | Location | Site                                                                                    | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----|----------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1647m E  | Name: Solent & Southampton Water<br>Site status: Listed<br>Data source: Natural England | Overview: The area covered extends from Hurst Spit to Galkicker Point along the south coast of Hampshire and along the north coast of the Isle of Wight. The site comprises of estuaries and adjacent coastal habitats including intertidal flats, saline lagoons, shingle beaches, saltmarsh, reedbeds, damp woodland, and grazing marsh. The diversity of habitats support internationally important numbers of wintering waterfowl, important breeding gull and tern populations and an important assemblage of rare invertebrates and plants. Ramsar criteria: Ramsar criterion 1 The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. Ramsar criterion 2 The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site. |

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.3 Special Areas of Conservation (SAC)

Records within 2000m

1

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

Features are displayed on the Environmental designations map on [page 55 >](#)



| ID | Location | Name            | Features of interest                                                                                                                                                                                                                                                                                                                                        | Habitat description                                                                                                                                                                                                                                               | Data source     |
|----|----------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| -  | 1648m E  | Solent Maritime | Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Annual vegetation of drift lines; Coastal shingle vegetation outside the reach of waves; Glasswort and other annuals colonising mud and sand; Cord-grass swards; Atlantic salt meadows; Shifting dunes with marram; Dune grassland; Desmoulin's whorl snail; Otter; Common seal. | Broad-leaved deciduous woodland; Shingle, Sea cliffs, Islets; Coastal sand dunes, Sand beaches, Machair; Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets | Natural England |

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.4 Special Protection Areas (SPA)

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>4</b> |
|-----------------------------|----------|

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

Features are displayed on the Environmental designations map on [page 55 >](#)

| ID | Location | Name                       | Species of interest                                                                                                                                    | Habitat description                                                                                                                                                                                                                                                                                                          | Data source     |
|----|----------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| -  | 1648m E  | Solent & Southampton Water | Eurasian teal; Ringed plover; Mediterranean gull; Sandwich tern; Roseate tern; Common tern; Little tern; Black-tailed godwit; Dark-bellied brent goose | Salt marshes, Salt pastures, Salt steppes; Coastal sand dunes, Sand beaches, Machair; Shingle, Sea cliffs, Islets; Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens | Natural England |
| 15 | 1729m SE | Solent and Dorset Coast    | Sandwich tern; Common tern; Little tern                                                                                                                | Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)                                                  | Natural England |
| -  | 1770m SE | Solent and Dorset Coast    | Sandwich tern; Common tern; Little tern                                                                                                                | Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)                                                  | Natural England |



| ID | Location | Name                    | Species of interest                     | Habitat description                                                                                                                                                                                                                                                         | Data source     |
|----|----------|-------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| -  | 1998m SE | Solent and Dorset Coast | Sandwich tern; Common tern; Little tern | Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) | Natural England |

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.5 National Nature Reserves (NNR)

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>0</b> |
|-----------------------------|----------|

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.6 Local Nature Reserves (LNR)

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>7</b> |
|-----------------------------|----------|

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on [page 55 >](#)

| ID | Location | Name            | Data source     |
|----|----------|-----------------|-----------------|
| 1  | 7m N     | Netley Common   | Natural England |
| 4  | 1008m E  | Manor Farm      | Natural England |
| 10 | 1376m NE | Wildern         | Natural England |
| -  | 1606m N  | Wildern         | Natural England |
| -  | 1824m NE | Wildern         | Natural England |
| -  | 1857m NE | Wildern         | Natural England |
| -  | 1954m SE | Hackett's Marsh | Natural England |

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*



## 10.7 Designated Ancient Woodland

Records within 2000m

11

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 55 >](#)

| ID | Location | Name                          | Woodland Type                   |
|----|----------|-------------------------------|---------------------------------|
| 2  | 799m E   | Catland/fosters/bottom Copses | Ancient & Semi-Natural Woodland |
| 3  | 961m E   | Catland/fosters/bottom Copses | Ancient & Semi-Natural Woodland |
| 5  | 1066m S  | Unknown                       | Ancient & Semi-Natural Woodland |
| 6  | 1227m E  | Catland/fosters/bottom Copses | Ancient & Semi-Natural Woodland |
| 7  | 1253m E  | Unknown                       | Ancient & Semi-Natural Woodland |
| -  | 1261m E  | Catland/fosters/bottom Copses | Ancient & Semi-Natural Woodland |
| -  | 1361m E  | Catland/fosters/bottom Copses | Ancient Replanted Woodland      |
| -  | 1390m E  | Unknown                       | Ancient & Semi-Natural Woodland |
| -  | 1587m S  | Mallards Moor                 | Ancient & Semi-Natural Woodland |
| -  | 1646m E  | Catland/fosters/bottom Copses | Ancient & Semi-Natural Woodland |
| -  | 1803m S  | Priors Hill Copse/hound Grove | Ancient & Semi-Natural Woodland |

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*



## 10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

*This data is sourced from the Forestry Commission.*

## 10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.11 Green Belt

Records within 2000m

0

Areas designated to prevent urban sprawl by keeping land permanently open.

*This data is sourced from the Ministry of Housing, Communities and Local Government.*

## 10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

*This data is sourced from Natural England.*

## 10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

*This data is sourced from Natural England and Natural Resources Wales.*





## 10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

*This data is sourced from Natural England.*

## 10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

*This data is sourced from Natural England.*

## 10.16 Nitrate Vulnerable Zones

Records within 2000m

1

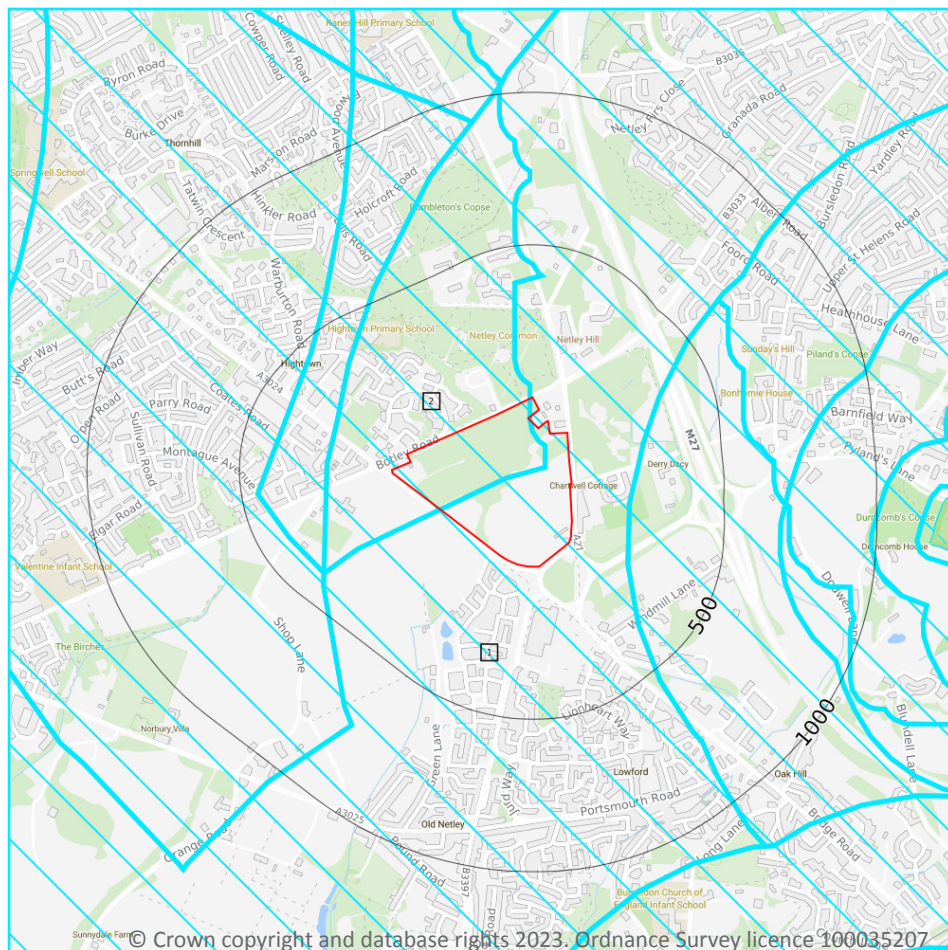
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

| Location | Name                                | Type            | NVZ ID | Status   |
|----------|-------------------------------------|-----------------|--------|----------|
| On site  | Hamble Estuary Eutrophic NVZ (TraC) | Eutrophic Water | 3      | Existing |

*This data is sourced from Natural England and Natural Resources Wales.*



## SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

### 10.17 SSSI Impact Risk Zones

#### Records on site

2

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 62](#) >

| ID | Location | Type of developments requiring consultation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | On site  | <p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil &amp; gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 200m<sup>2</sup>, manure stores &gt; 250t).</p> <p>Combustion - General combustion processes &gt;20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m<sup>2</sup> or more.</p> <p>Notes: Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements. NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p> |



| ID | Location | Type of developments requiring consultation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2  | On site  | <p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil &amp; gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 200m<sup>2</sup>, manure stores &gt; 250t).</p> <p>Combustion - General combustion processes &gt;20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management</p> <p>Discharges - Any discharge of water or liquid waste of more than 20m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m<sup>2</sup> or more.</p> <p>Notes: Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements. NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.</p> |

*This data is sourced from Natural England.*

## 10.18 SSSI Units

|                      |   |
|----------------------|---|
| Records within 2000m | 3 |
|----------------------|---|

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on [page 62 >](#)

|                |                                               |
|----------------|-----------------------------------------------|
| ID:            | 10                                            |
| Location:      | 1186m E                                       |
| SSSI name:     | Upper Hamble Estuary and Woods                |
| Unit name:     | Manor Farm Woodland                           |
| Broad habitat: | Broadleaved, Mixed And Yew Woodland - Lowland |
| Condition:     | Favourable                                    |



## Reportable features:

| Feature name                     | Feature condition | Date of assessment |
|----------------------------------|-------------------|--------------------|
| Lowland mixed deciduous woodland | Favourable        | 08/03/2021         |

ID: -  
 Location: 1389m E  
 SSSI name: Upper Hamble Estuary and Woods  
 Unit name: Hoe Moor Creek Woodland  
 Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland  
 Condition: Unfavourable - No change  
 Reportable features:

| Feature name                     | Feature condition        | Date of assessment |
|----------------------------------|--------------------------|--------------------|
| Lowland mixed deciduous woodland | Unfavourable - No change | 02/07/2010         |

ID: -  
 Location: 1648m E  
 SSSI name: Upper Hamble Estuary and Woods  
 Unit name: Manor Farm Foreshore  
 Broad habitat: Littoral Sediment  
 Condition: Favourable  
 Reportable features:

| Feature name                                                     | Feature condition | Date of assessment |
|------------------------------------------------------------------|-------------------|--------------------|
| H1130 Estuaries                                                  | Not Recorded      | 01/01/1900         |
| H1140 Mudflats and sandflats not covered by seawater at low tide | Not Recorded      | 01/01/1900         |
| H1310 Salicornia and other annuals colonising mud and sand       | Favourable        | 08/03/2021         |
| H1320 Spartina swards (Spartinion maritimae)                     | Favourable        | 08/03/2021         |
| H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)  | Favourable        | 08/03/2021         |
| Littoral sediment                                                | Not Recorded      | 01/01/1900         |
| SM4-28 - Saltmarsh                                               | Favourable        | 08/03/2021         |

*This data is sourced from Natural England and Natural Resources Wales.*



## 11 Visual and cultural designations

### 11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

### 11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

### 11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

*This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.*

### 11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.





*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.7 Registered Parks and Gardens

Records within 250m

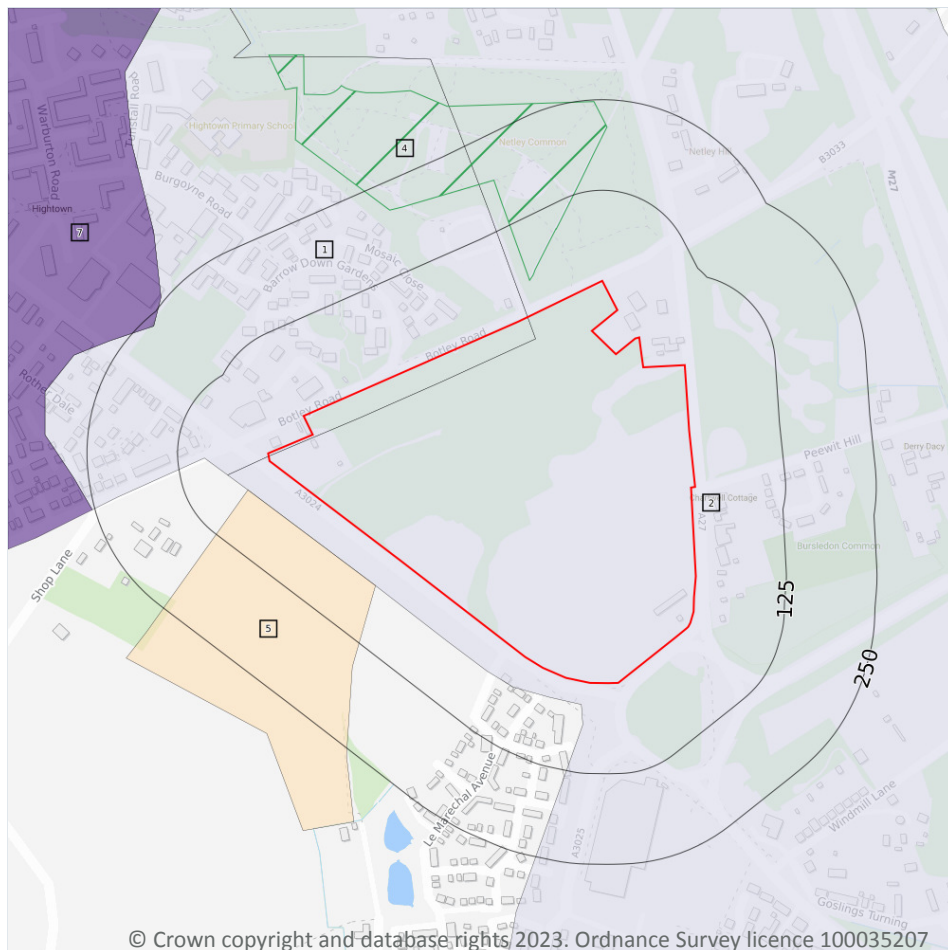
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*



## 12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

### 12.1 Agricultural Land Classification

Records within 250m

4

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 68](#) >

| ID | Location | Classification | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | On site  | Grade 4        | Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land. |



| ID | Location | Classification | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2  | On site  | Grade 4        | Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land. |
| 5  | 48m SW   | Grade 3b       | Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.                                                                                                                                                            |
| 7  | 236m NW  | Urban          | -                                                                                                                                                                                                                                                                                                                                                                                                                            |

*This data is sourced from Natural England.*

## 12.2 Open Access Land

**Records within 250m**

**0**

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

*This data is sourced from Natural England and Natural Resources Wales.*

## 12.3 Tree Felling Licences

**Records within 250m**

**1**

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

Features are displayed on the Agricultural designations map on [page 68](#) >

| ID | Location | Description                         | Reference     | Application date |
|----|----------|-------------------------------------|---------------|------------------|
| 4  | 45m N    | Selective Fell/Thin (Unconditional) | 019/135/12-13 | 02/08/2012       |

*This data is sourced from the Forestry Commission.*



## 12.4 Environmental Stewardship Schemes

**Records within 250m****1**

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

| Location | Reference  | Scheme                   | Start Date | End date   |
|----------|------------|--------------------------|------------|------------|
| 11m N    | AG00350691 | Higher Level Stewardship | 01/02/2012 | 31/01/2023 |

*This data is sourced from Natural England.*

## 12.5 Countryside Stewardship Schemes

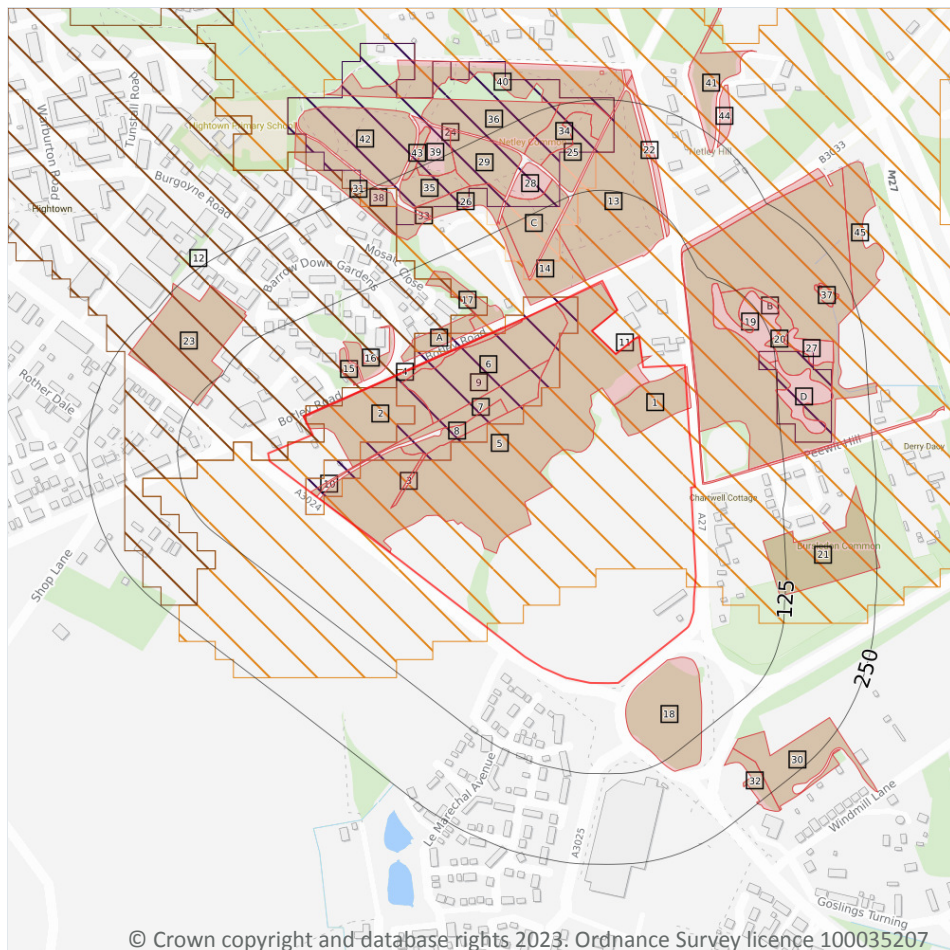
**Records within 250m****0**

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

*This data is sourced from Natural England.*



## 13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

### 13.1 Priority Habitat Inventory

Records within 250m

43

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 71 >](#)

| ID | Location | Main Habitat       | Other habitats                  |
|----|----------|--------------------|---------------------------------|
| 1  | On site  | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 2  | On site  | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 3  | On site  | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 4  | On site  | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |



| ID | Location | Main Habitat                                    | Other habitats                                               |
|----|----------|-------------------------------------------------|--------------------------------------------------------------|
| 5  | On site  | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 6  | On site  | Lowland heathland                               | Main habitat: LHEAT (INV > 50%); Additional: DWOOD (INV 50%) |
| 7  | On site  | Lowland heathland                               | Main habitat: LHEAT (INV > 50%); DWOOD (INV > 50%)           |
| 8  | On site  | Lowland heathland                               | Main habitat: LHEAT (INV > 50%); DWOOD (INV > 50%)           |
| 13 | 10m N    | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%); Additional: LRBOG (FEP 50%) |
| 14 | 11m N    | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%); Additional: LRBOG (FEP 50%) |
| B  | 11m E    | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 15 | 11m NW   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 16 | 11m NW   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| A  | 12m NW   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| B  | 13m NE   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 17 | 13m N    | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 18 | 18m SE   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| C  | 49m N    | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%); LHEAT (FEP + HLS)           |
| 19 | 68m NE   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 20 | 91m NE   | Deciduous woodland                              | Main habitat: LHEAT (INV > 50%); DWOOD (INV > 50%)           |
| 21 | 95m E    | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 22 | 108m NE  | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%); Additional: LRBOG (FEP 50%) |
| D  | 117m NE  | Lowland heathland                               | Main habitat: LHEAT (INV > 50%); DWOOD (INV > 50%)           |
| 23 | 118m W   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 25 | 130m N   | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%); LHEAT (FEP + HLS)           |
| 26 | 133m N   | No main habitat but additional habitats present | Additional: LRBOG (FEP 50%)                                  |
| 27 | 140m NE  | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |
| 28 | 142m N   | Lowland heathland                               | Main habitat: LHEAT (FEP + HLS)                              |
| 29 | 163m N   | Lowland heathland                               | Main habitat: LHEAT (INV > 50%, FEP + HLS)                   |
| 30 | 163m SE  | Deciduous woodland                              | Main habitat: DWOOD (INV > 50%)                              |





| ID | Location | Main Habitat       | Other habitats                                               |
|----|----------|--------------------|--------------------------------------------------------------|
| 31 | 165m NW  | Deciduous woodland | Main habitat: DWOOD (INV > 50%); Additional: LRBOG (FEP 50%) |
| 32 | 169m SE  | Deciduous woodland | Main habitat: DWOOD (INV > 50%)                              |
| 34 | 180m N   | Lowland heathland  | Main habitat: LHEAT (FEP + HLS)                              |
| 35 | 197m N   | Lowland heathland  | Main habitat: LHEAT (INV > 50%, FEP + HLS)                   |
| 36 | 204m N   | Lowland heathland  | Main habitat: LHEAT (INV > 50%, FEP + HLS)                   |
| 37 | 207m NE  | Deciduous woodland | Main habitat: DWOOD (INV > 50%)                              |
| 39 | 226m N   | Lowland heathland  | Main habitat: LHEAT (FEP + HLS)                              |
| 40 | 226m N   | Deciduous woodland | Main habitat: DWOOD (INV > 50%); Additional: LRBOG (FEP 50%) |
| 41 | 232m NE  | Deciduous woodland | Main habitat: DWOOD (INV > 50%)                              |
| 42 | 241m NW  | Lowland heathland  | Main habitat: LHEAT (INV > 50%, FEP + HLS)                   |
| 43 | 241m N   | Lowland heathland  | Main habitat: LHEAT (FEP + HLS)                              |
| 44 | 243m NE  | Deciduous woodland | Main habitat: DWOOD (INV > 50%)                              |
| 45 | 246m NE  | Deciduous woodland | Main habitat: DWOOD (INV > 50%)                              |

*This data is sourced from Natural England.*

## 13.2 Habitat Networks

**Records within 250m**

**10**

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

Features are displayed on the Habitat designations map on [page 71](#) >

| ID | Location | Type                         | Habitat           |
|----|----------|------------------------------|-------------------|
| 9  | On site  | Primary Habitat              | Lowland heathland |
| 10 | On site  | Primary Habitat              | Lowland heathland |
| 11 | On site  | Network Enhancement Zone 1   | Not specified     |
| 12 | On site  | Network Enhancement Zone 2   | Not specified     |
| A  | On site  | Network Enhancement Zone 1   | Not specified     |
| C  | 39m N    | Habitat Restoration-Creation | Not specified     |



| ID | Location | Type                         | Habitat           |
|----|----------|------------------------------|-------------------|
| D  | 102m NE  | Primary Habitat              | Lowland heathland |
| 24 | 118m N   | Primary Habitat              | Lowland heathland |
| 33 | 170m N   | Habitat Restoration-Creation | Not specified     |
| 38 | 213m NW  | Network Enhancement Zone 1   | Not specified     |

*This data is sourced from Natural England.*

### 13.3 Open Mosaic Habitat

**Records within 250m**

**0**

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

*This data is sourced from Natural England.*

### 13.4 Limestone Pavement Orders

**Records within 250m**

**0**

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

*This data is sourced from Natural England.*



## 14 Geology 1:10,000 scale - Availability



### 14.1 10k Availability

#### Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

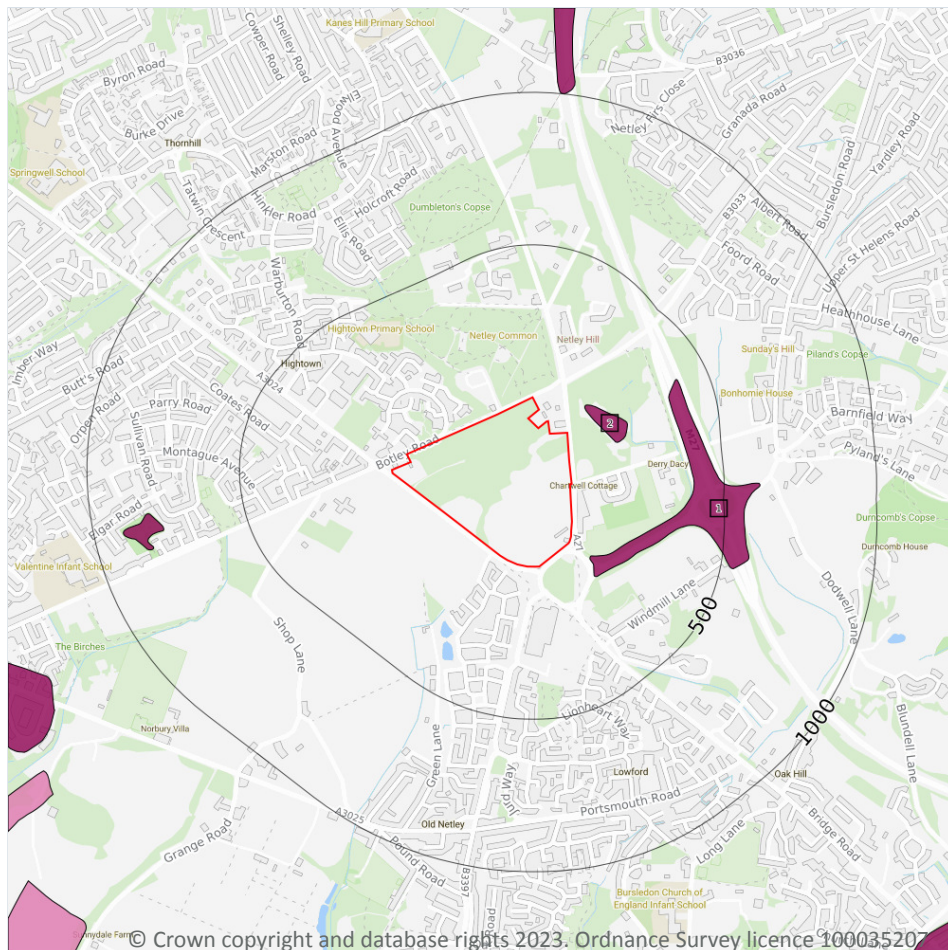
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 75](#) >

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|----|----------|------------|-------------|---------|---------------|-----------|
| 1  | On site  | Full       | Full        | Full    | No coverage   | SU41SE    |

This data is sourced from the British Geological Survey.



## Geology 1:10,000 scale - Artificial and made ground



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
  - Made ground
  - Worked ground
  - Infilled ground
  - Disturbed ground
  - Landscaped ground

### 14.2 Artificial and made ground (10k)

#### Records within 500m

2

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 76](#) >

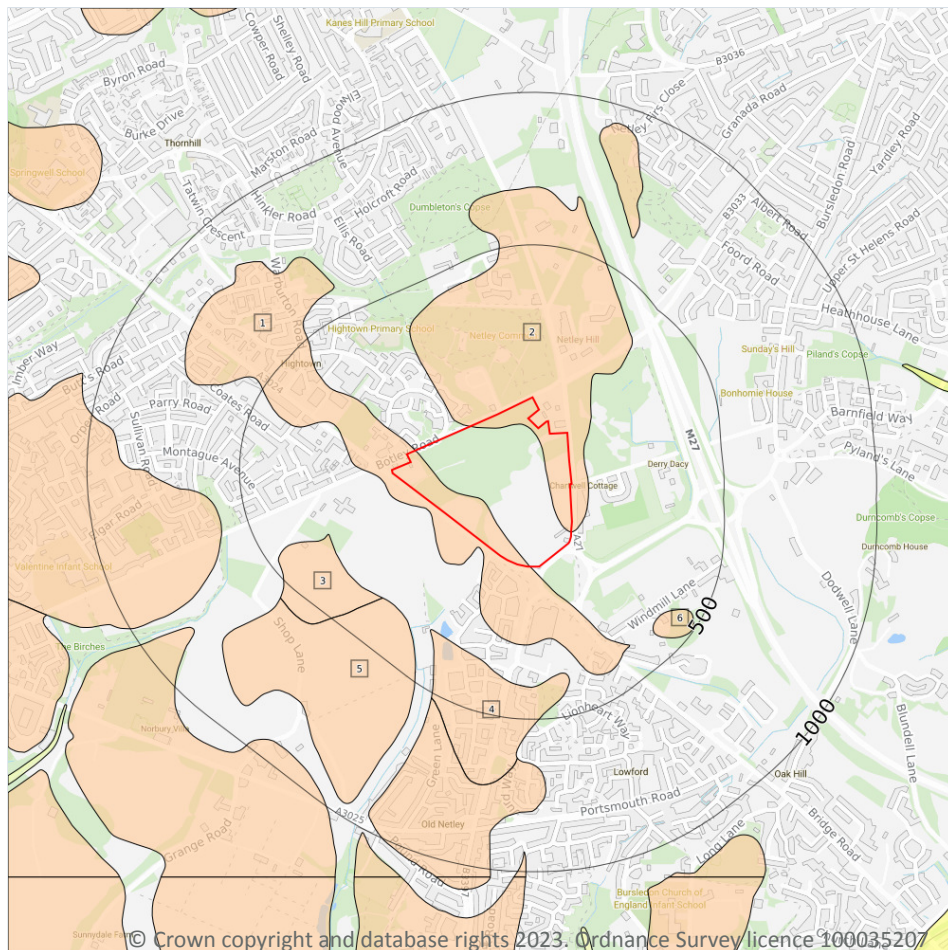
| ID | Location | LEX Code  | Description             | Rock description   |
|----|----------|-----------|-------------------------|--------------------|
| 1  | 84m SE   | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |
| 2  | 93m NE   | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |

*This data is sourced from the British Geological Survey.*





## Geology 1:10,000 scale - Superficial



**Site Outline**

Search buffers in metres (m)

**Landslip (10k)**

**Superficial geology (10k)**  
Please see table for more details.

### 14.3 Superficial geology (10k)

Records within 500m

6

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 77](#) >

| ID | Location | LEX Code | Description                                 | Rock description |
|----|----------|----------|---------------------------------------------|------------------|
| 1  | On site  | RTD8-XSV | River Terrace Deposits, 8 - Sand And Gravel | Sand And Gravel  |
| 2  | On site  | RTD9-XSV | River Terrace Deposits, 9 - Sand And Gravel | Sand And Gravel  |
| 3  | 290m W   | RTD7-XSV | River Terrace Deposits, 7 - Sand And Gravel | Sand And Gravel  |
| 4  | 324m S   | RTD7-XSV | River Terrace Deposits, 7 - Sand And Gravel | Sand And Gravel  |



| ID | Location | LEX Code | Description                                 | Rock description |
|----|----------|----------|---------------------------------------------|------------------|
| 5  | 341m SW  | RTD6-XSV | River Terrace Deposits, 6 - Sand And Gravel | Sand And Gravel  |
| 6  | 382m SE  | RTD8-XSV | River Terrace Deposits, 8 - Sand And Gravel | Sand And Gravel  |

*This data is sourced from the British Geological Survey.*

## 14.4 Landslip (10k)

### Records within 500m

**0**

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

*This data is sourced from the British Geological Survey.*





## Geology 1:10,000 scale - Bedrock



**Site Outline**

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

Bedrock geology (10k)  
Please see table for more details.

### 14.5 Bedrock geology (10k)

Records within 500m

2

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 79 >](#)

| ID | Location | LEX Code   | Description                                 | Rock age                    |
|----|----------|------------|---------------------------------------------|-----------------------------|
| 1  | On site  | WTT-CLSISA | Wittering Formation - Clay, Silt And Sand   | Lutetian Age - Ypresian Age |
| 2  | 179m SE  | LC-CLSISA  | London Clay Formation - Clay, Silt And Sand | Eocene Epoch                |

*This data is sourced from the British Geological Survey.*



## 14.6 Bedrock faults and other linear features (10k)

Records within 500m

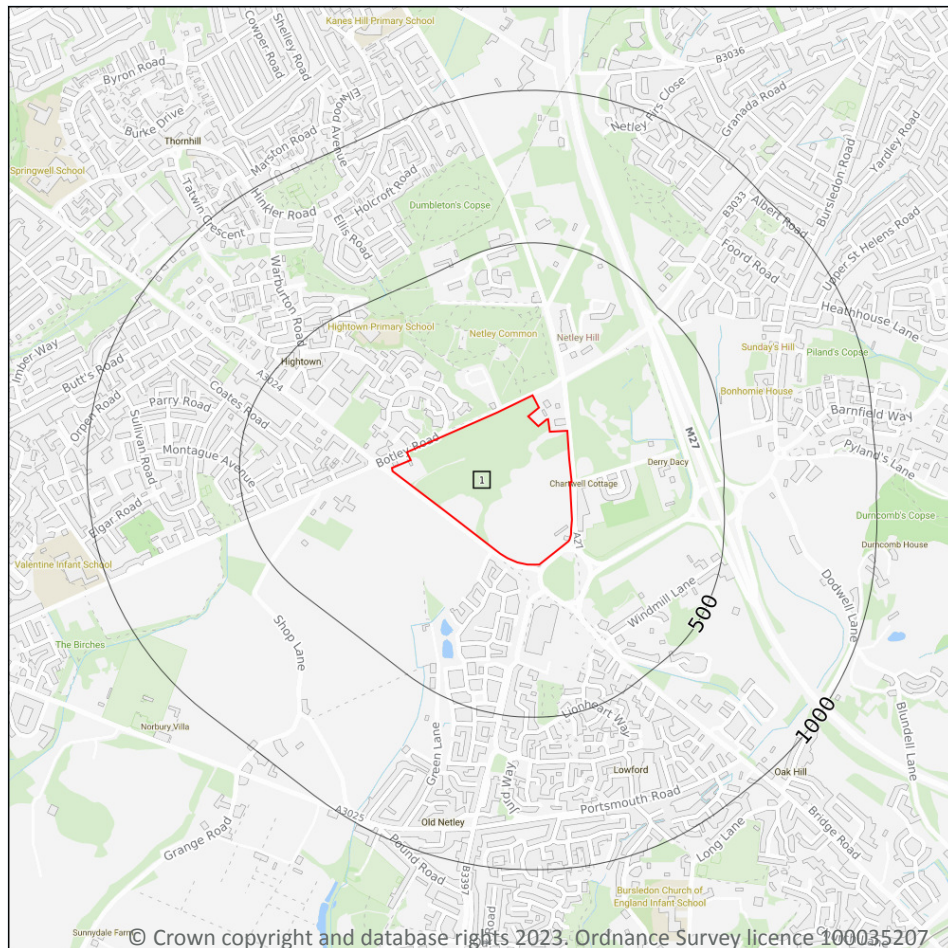
0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

*This data is sourced from the British Geological Survey.*



## 15 Geology 1:50,000 scale - Availability



**Site Outline**

Search buffers in metres (m)

☐ Geological map tile

### 15.1 50k Availability

#### Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 81](#) >

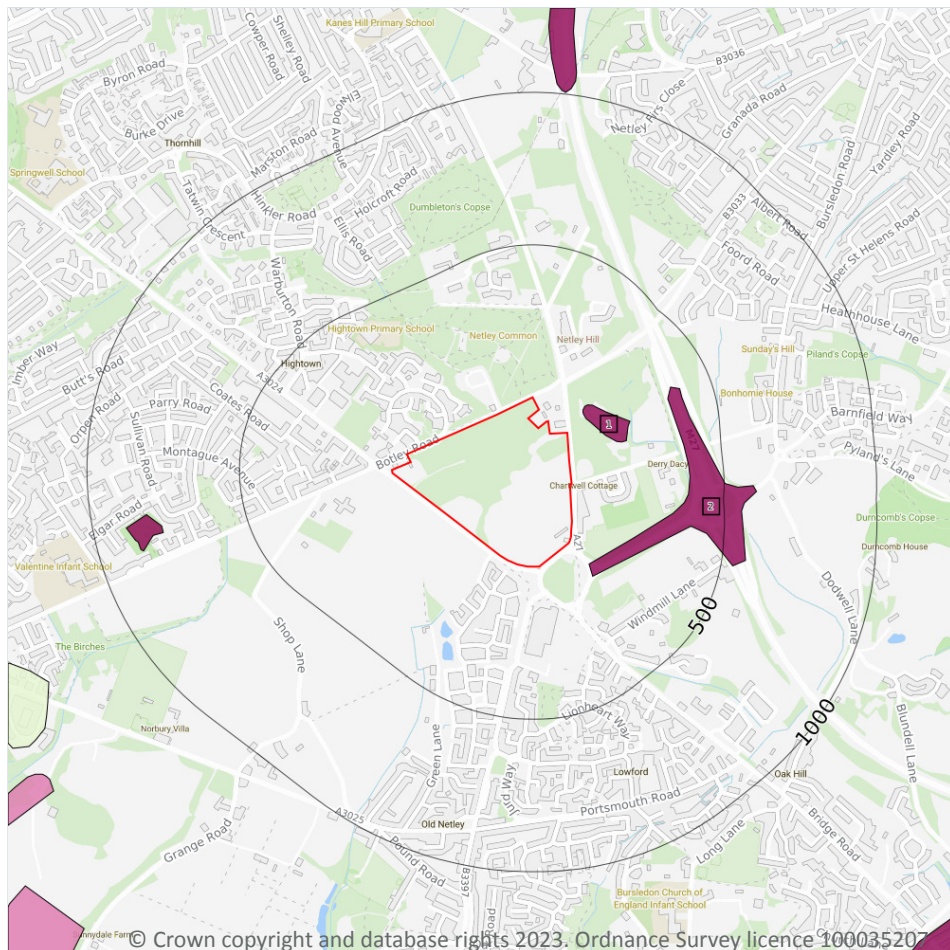
| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No.            |
|----|----------|------------|-------------|---------|---------------|----------------------|
| 1  | On site  | Full       | Full        | Full    | Full          | EW315_southampton_v4 |

*This data is sourced from the British Geological Survey.*





## Geology 1:50,000 scale - Artificial and made ground



— Site Outline  
Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

### 15.2 Artificial and made ground (50k)

#### Records within 500m

2

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 82](#) >

| ID | Location | LEX Code  | Description             | Rock description   |
|----|----------|-----------|-------------------------|--------------------|
| 1  | 78m NE   | MGR-ARTDP | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| 2  | 96m SE   | MGR-ARTDP | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |

This data is sourced from the British Geological Survey.



### 15.3 Artificial ground permeability (50k)

Records within 50m

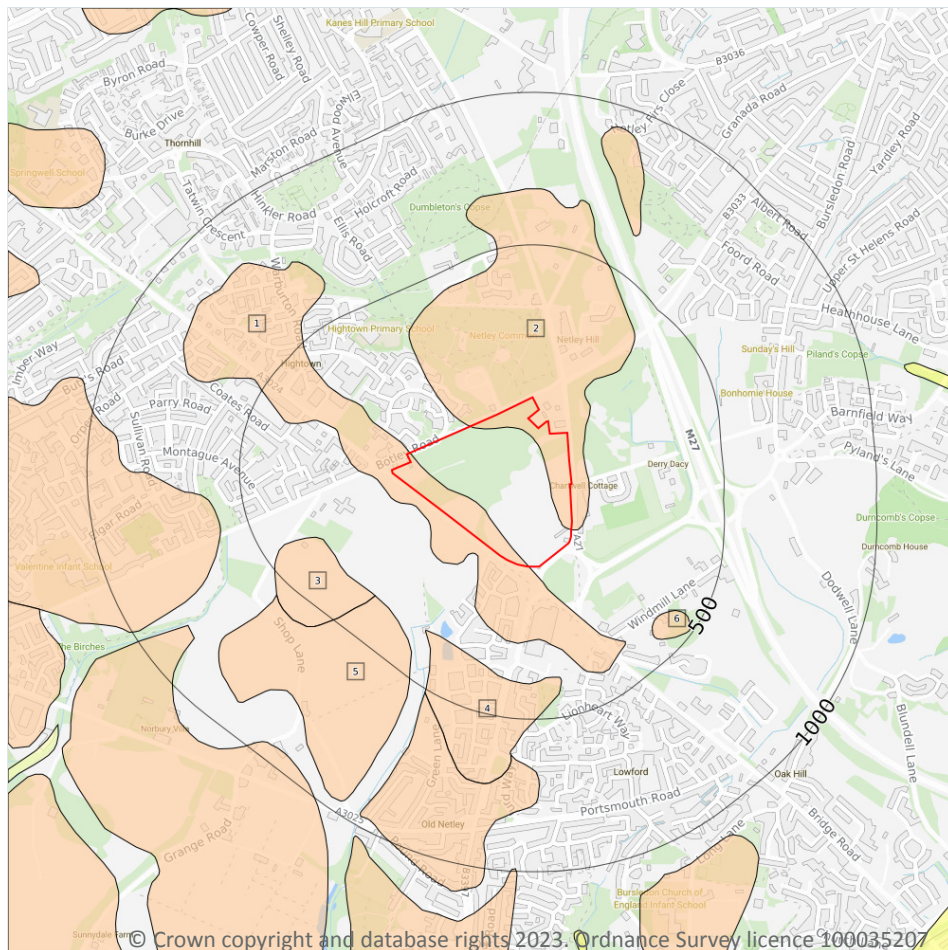
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

*This data is sourced from the British Geological Survey.*



## Geology 1:50,000 scale - Superficial



**Site Outline**

Search buffers in metres (m)

**Landslip (50k)**

**Superficial geology (50k)**  
Please see table for more details.

### 15.4 Superficial geology (50k)

#### Records within 500m

6

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 84](#) >

| ID | Location | LEX Code | Description               | Rock description |
|----|----------|----------|---------------------------|------------------|
| 1  | On site  | RTD8-XSV | RIVER TERRACE DEPOSITS, 8 | SAND AND GRAVEL  |
| 2  | On site  | RTD9-XSV | RIVER TERRACE DEPOSITS, 9 | SAND AND GRAVEL  |
| 3  | 315m W   | RTD7-XSV | RIVER TERRACE DEPOSITS, 7 | SAND AND GRAVEL  |
| 4  | 328m S   | RTD7-XSV | RIVER TERRACE DEPOSITS, 7 | SAND AND GRAVEL  |





| ID | Location | LEX Code | Description               | Rock description |
|----|----------|----------|---------------------------|------------------|
| 5  | 354m SW  | RTD6-XSV | RIVER TERRACE DEPOSITS, 6 | SAND AND GRAVEL  |
| 6  | 378m SE  | RTD9-XSV | RIVER TERRACE DEPOSITS, 9 | SAND AND GRAVEL  |

*This data is sourced from the British Geological Survey.*

## 15.5 Superficial permeability (50k)

|                           |          |
|---------------------------|----------|
| <b>Records within 50m</b> | <b>2</b> |
|---------------------------|----------|

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

| Location | Flow type     | Maximum permeability | Minimum permeability |
|----------|---------------|----------------------|----------------------|
| On site  | Intergranular | Very High            | High                 |
| On site  | Intergranular | Very High            | High                 |

*This data is sourced from the British Geological Survey.*

## 15.6 Landslip (50k)

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

*This data is sourced from the British Geological Survey.*

## 15.7 Landslip permeability (50k)

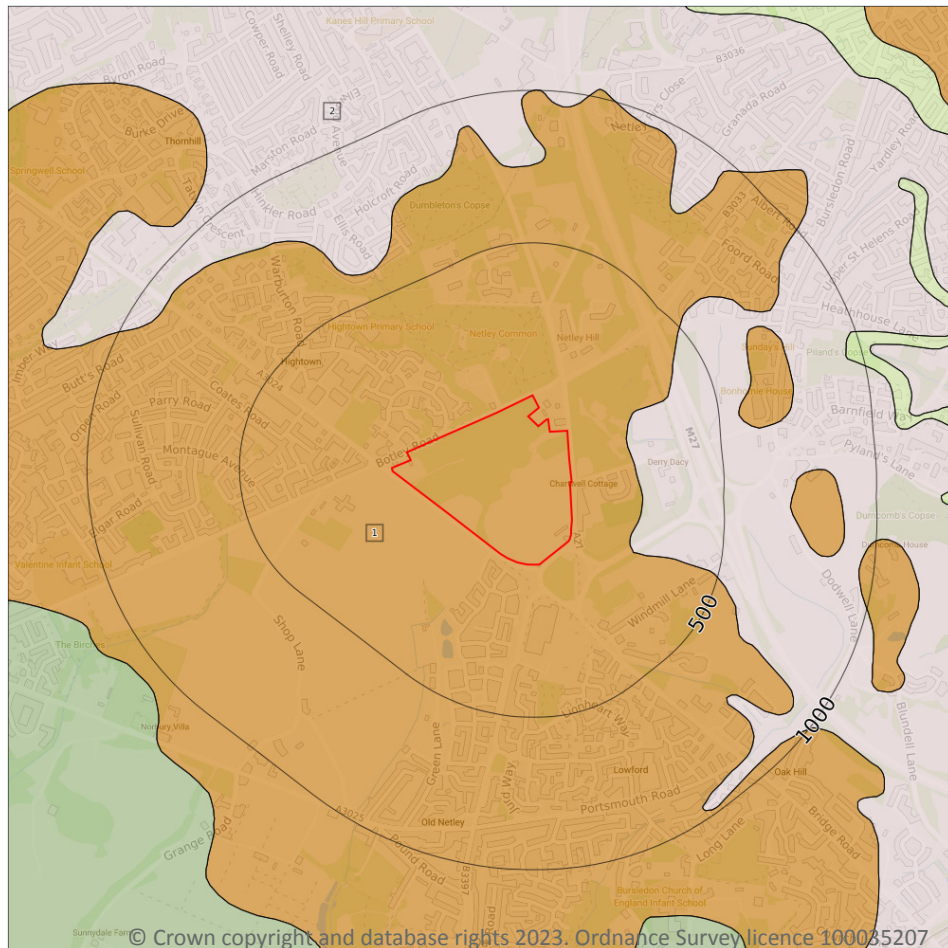
|                           |          |
|---------------------------|----------|
| <b>Records within 50m</b> | <b>0</b> |
|---------------------------|----------|

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

*This data is sourced from the British Geological Survey.*



## Geology 1:50,000 scale - Bedrock



**Site Outline**

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

Bedrock geology (50k)  
Please see table for more details.

### 15.8 Bedrock geology (50k)

#### Records within 500m

2

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 86 >](#)

| ID | Location | LEX Code | Description                                 | Rock age |
|----|----------|----------|---------------------------------------------|----------|
| 1  | On site  | WTT-XSZC | WITTERING FORMATION - SAND, SILT AND CLAY   | YPRESIAN |
| 2  | 191m E   | LC-XCZS  | LONDON CLAY FORMATION - CLAY, SILT AND SAND | YPRESIAN |

*This data is sourced from the British Geological Survey.*



## 15.9 Bedrock permeability (50k)

**Records within 50m****1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

| Location | Flow type     | Maximum permeability | Minimum permeability |
|----------|---------------|----------------------|----------------------|
| On site  | Intergranular | High                 | Low                  |

*This data is sourced from the British Geological Survey.*

## 15.10 Bedrock faults and other linear features (50k)

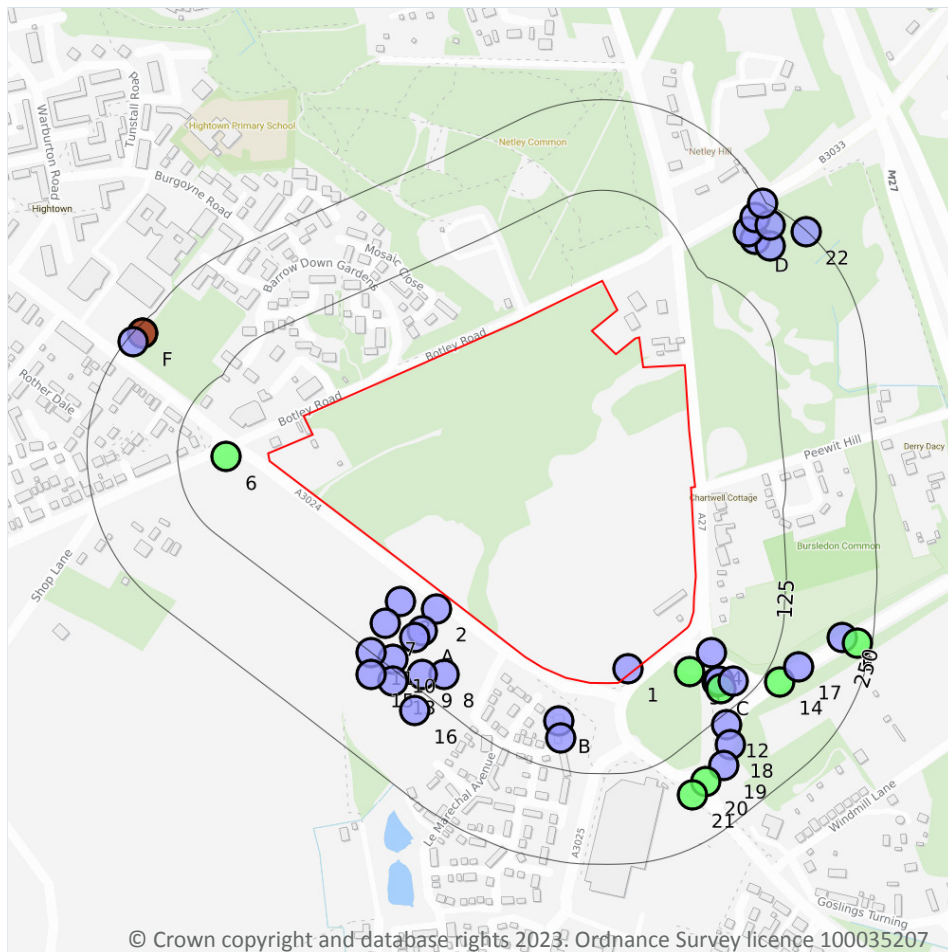
**Records within 500m****0**

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

*This data is sourced from the British Geological Survey.*



## 16 Boreholes



— Site Outline  
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

### 16.1 BGS Boreholes

Records within 250m

40

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on [page 88](#) >

| ID | Location | Grid reference | Name                 | Length | Confidential | Web link                      |
|----|----------|----------------|----------------------|--------|--------------|-------------------------------|
| 1  | On site  | 447894 111037  | M27 Junction 8 BH14  | 10.0   | N            | <a href="#">20983124</a><br>↗ |
| 2  | 22m SW   | 447630 111120  | GREEN LANE DEPOT TP2 | 3.0    | N            | <a href="#">410806</a> ↗      |



| ID | Location | Grid reference | Name                             | Length | Confidential | Web link                   |
|----|----------|----------------|----------------------------------|--------|--------------|----------------------------|
| 3  | 45m SW   | 447580 111130  | GREEN LANE DEPOT TP1             | 3.5    | N            | <a href="#">410805 ↗</a>   |
| 4  | 48m SE   | 448010 111060  | WEST END MIN OF TRANSPORT BH180  | 4.57   | N            | <a href="#">410424 ↗</a>   |
| 5  | 49m SE   | 447980 111034  | M27 Junction 8 BH15              | 15.0   | N            | <a href="#">20983125 ↗</a> |
| 6  | 58m W    | 447340 111330  | BOTLEY/BURSDEN ROAD BH1          | 15.0   | N            | <a href="#">410654 ↗</a>   |
| A  | 58m SW   | 447610 111090  | GREEN LANE DEPOT TP12            | 3.5    | N            | <a href="#">410816 ↗</a>   |
| B  | 60m S    | 447799 110966  | M27 Junction 8 HP05              | 1.2    | N            | <a href="#">20983130 ↗</a> |
| A  | 72m SW   | 447600 111080  | GREEN LANE DEPOT TP11            | 3.55   | N            | <a href="#">410815 ↗</a>   |
| 7  | 81m SW   | 447560 111100  | GREEN LANE DEPOT TP9             | 3.6    | N            | <a href="#">410813 ↗</a>   |
| B  | 83m S    | 447801 110942  | M27 Junction 8 BH13              | 6.0    | N            | <a href="#">20983123 ↗</a> |
| C  | 84m SE   | 448017 111019  | M27 Junction 8 HP01              | 0.41   | N            | <a href="#">20983126 ↗</a> |
| C  | 85m SE   | 448020 111020  | M27 Junction 8 HP01A             | 1.2    | N            | <a href="#">20983127 ↗</a> |
| 8  | 87m SW   | 447640 111030  | GREEN LANE DEPOT TP3             | 2.7    | N            | <a href="#">410807 ↗</a>   |
| C  | 94m SE   | 448022 111010  | M27 Junction 8 BH10              | 15.0   | N            | <a href="#">20983120 ↗</a> |
| C  | 98m SE   | 448040 111020  | WEST END MIN OF TRANSPORT BH179A | 7.01   | N            | <a href="#">410423 ↗</a>   |
| 9  | 106m SW  | 447610 111030  | GREEN LANE DEPOT TP4             | 3.7    | N            | <a href="#">410808 ↗</a>   |
| 10 | 114m SW  | 447570 111050  | GREEN LANE DEPOT TP10            | 3.0    | N            | <a href="#">410814 ↗</a>   |
| 11 | 125m SW  | 447540 111060  | GREEN LANE DEPOT TP8             | 2.8    | N            | <a href="#">410812 ↗</a>   |
| 12 | 138m SE  | 448030 110960  | WEST END MIN OF TRANSPORT BH181  | 5.18   | N            | <a href="#">410425 ↗</a>   |
| 13 | 138m SW  | 447570 111020  | GREEN LANE DEPOT TP6             | 2.7    | N            | <a href="#">410810 ↗</a>   |
| 14 | 148m SE  | 448104 111019  | M27 Junction 8 BH09              | 20.0   | N            | <a href="#">20983119 ↗</a> |
| 15 | 149m SW  | 447540 111030  | GREEN LANE DEPOT TP7             | 2.8    | N            | <a href="#">410811 ↗</a>   |
| 16 | 152m SW  | 447600 110980  | GREEN LANE DEPOT TP5             | 2.8    | N            | <a href="#">410809 ↗</a>   |
| 17 | 161m SE  | 448130 111040  | WEST END MIN OF TRANSPORT BH179  | 4.57   | N            | <a href="#">410422 ↗</a>   |
| 18 | 163m SE  | 448036 110933  | M27 Junction 8 HP02              | 1.2    | N            | <a href="#">20983128 ↗</a> |



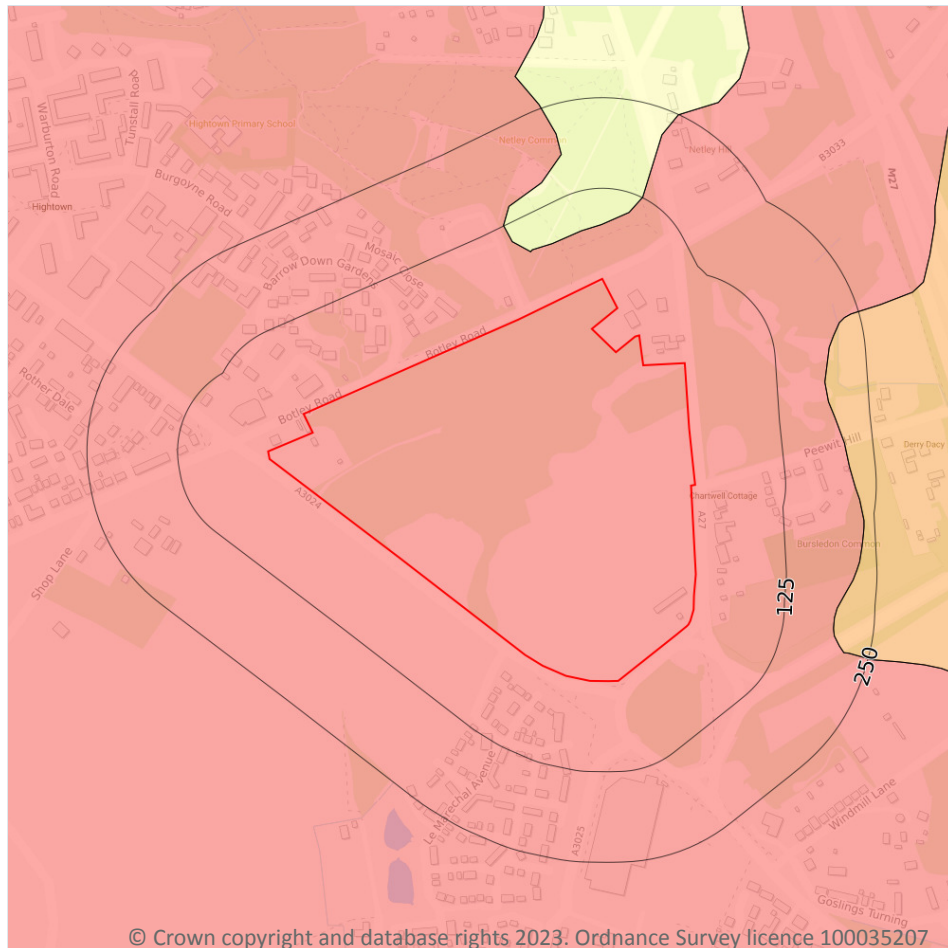
| ID | Location | Grid reference | Name                             | Length | Confidential | Web link                   |
|----|----------|----------------|----------------------------------|--------|--------------|----------------------------|
| 19 | 180m SE  | 448027 110904  | M27 Junction 8 HP03              | 1.2    | N            | <a href="#">20983129 ↗</a> |
| 20 | 182m SE  | 448001 110881  | M27 Junction 8 BH11              | 15.0   | N            | <a href="#">20983121 ↗</a> |
| 21 | 185m SE  | 447983 110863  | M27 Junction 8 BH12              | 15.0   | N            | <a href="#">20983122 ↗</a> |
| D  | 199m NE  | 448070 111630  | BURSLEDON AMBULANCE STATION TP9  | 3.0    | N            | <a href="#">410772 ↗</a>   |
| D  | 202m NE  | 448090 111620  | BURSLEDON AMBULANCE STATION TP8  | 2.6    | N            | <a href="#">410771 ↗</a>   |
| D  | 204m NE  | 448060 111640  | BURSLEDON AMBULANCE STATION TP1  | 2.3    | N            | <a href="#">410764 ↗</a>   |
| E  | 208m SE  | 448190 111080  | WEST END MIN OF TRANSPORT BH178  | 5.18   | N            | <a href="#">410421 ↗</a>   |
| D  | 226m NE  | 448070 111660  | BURSLEDON AMBULANCE STATION TP2  | 3.0    | N            | <a href="#">410765 ↗</a>   |
| D  | 227m NE  | 448090 111650  | BURSLEDON AMBULANCE STATION TP7  | 2.6    | N            | <a href="#">410770 ↗</a>   |
| E  | 230m SE  | 448211 111072  | M27 Junction 8 BH08              | 15.0   | N            | <a href="#">20983118 ↗</a> |
| F  | 239m W   | 447225 111500  | BURSLEDON ROAD TH5               | -1.0   | N            | <a href="#">410873 ↗</a>   |
| F  | 242m W   | 447212 111489  | BURSLEDON ROAD TH4               | 3.0    | N            | <a href="#">410872 ↗</a>   |
| D  | 246m NE  | 448080 111680  | BURSLEDON AMBULANCE STATION TP3  | 3.0    | N            | <a href="#">410766 ↗</a>   |
| 22 | 249m NE  | 448140 111640  | BURSLEDON AMBULANCE STATION TP10 | 3.0    | N            | <a href="#">410773 ↗</a>   |

*This data is sourced from the British Geological Survey.*





## 17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

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### 17.1 Shrink swell clays

#### Records within 50m

1

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

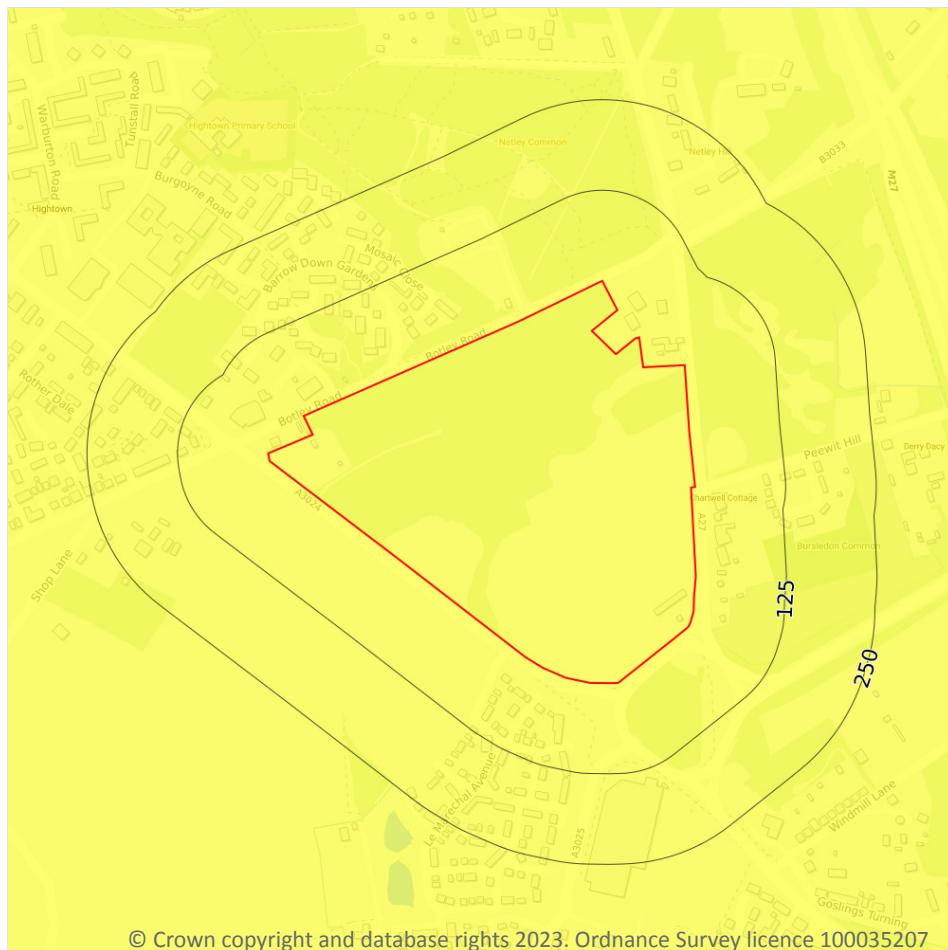
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 91 >](#)

| Location | Hazard rating | Details                                          |
|----------|---------------|--------------------------------------------------|
| On site  | Moderate      | Ground conditions predominantly high plasticity. |

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.2 Running sands

#### Records within 50m

1

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

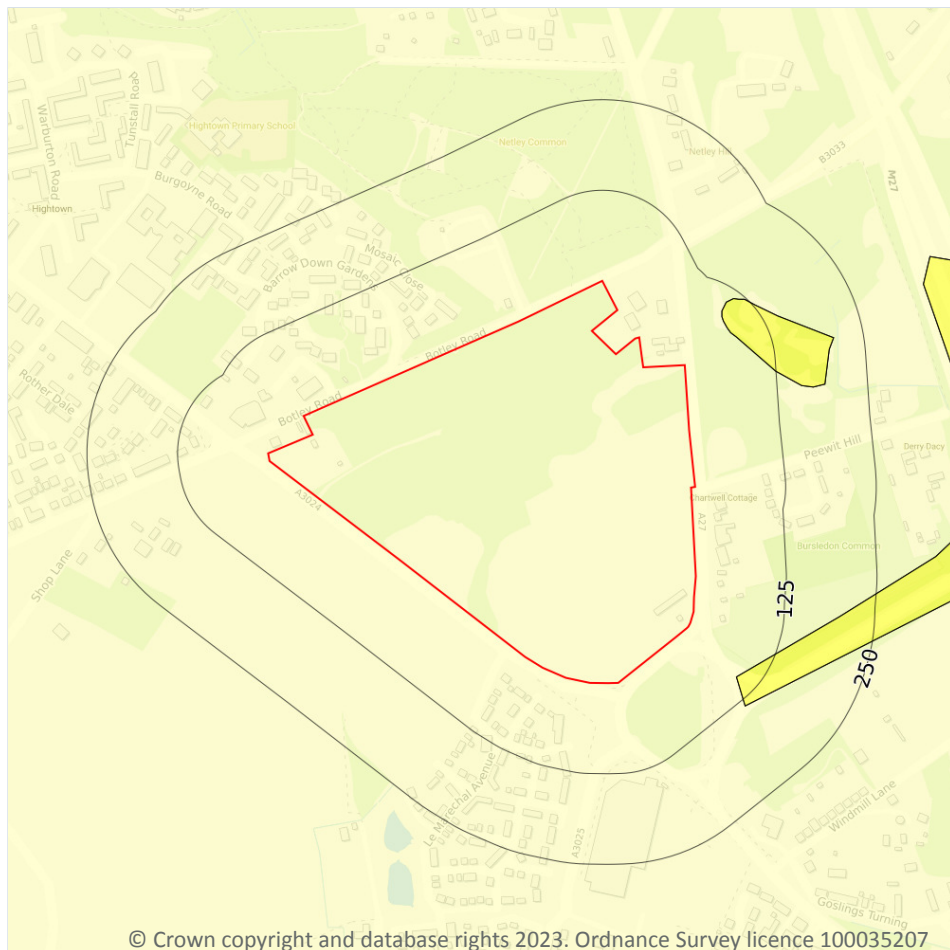
Features are displayed on the Natural ground subsidence - Running sands map on [page 92 >](#)

| Location | Hazard rating | Details                                                                                                                                 |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| On site  | Very low      | Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. |

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Compressible deposits



- Site Outline**
- Search buffers in metres (m)**
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.3 Compressible deposits

#### Records within 50m

1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

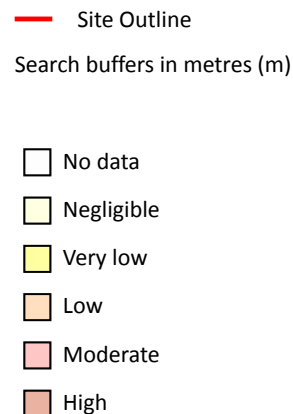
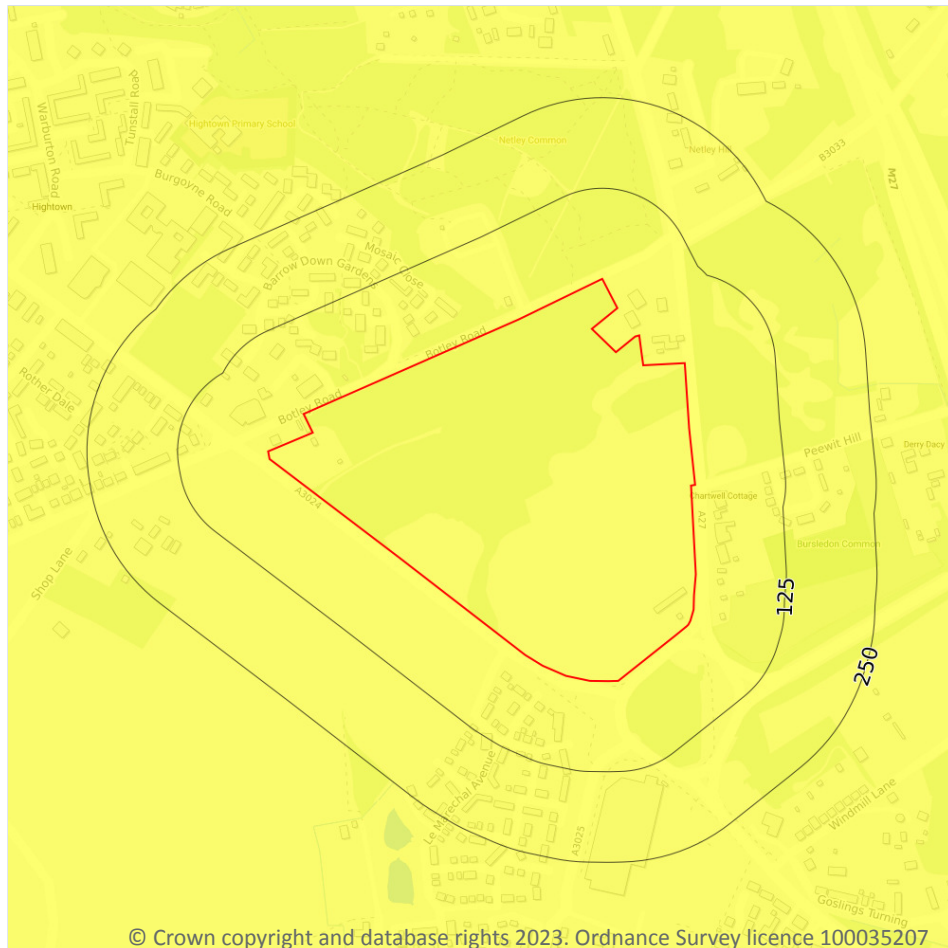
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 93](#) >

| Location | Hazard rating | Details                                       |
|----------|---------------|-----------------------------------------------|
| On site  | Negligible    | Compressible strata are not thought to occur. |

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Collapsible deposits



### 17.4 Collapsible deposits

#### Records within 50m

1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 94 >](#)

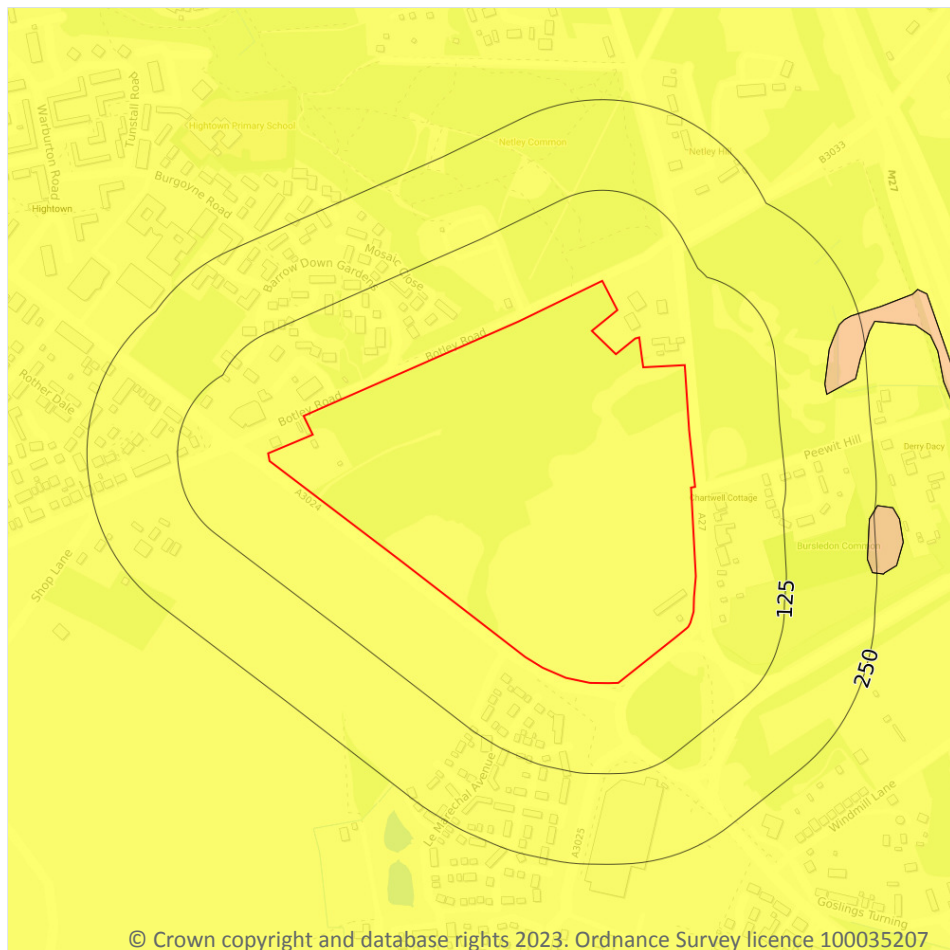
| Location | Hazard rating | Details                                                                                   |
|----------|---------------|-------------------------------------------------------------------------------------------|
| On site  | Very low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. |

*This data is sourced from the British Geological Survey.*





## Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

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### 17.5 Landslides

#### Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

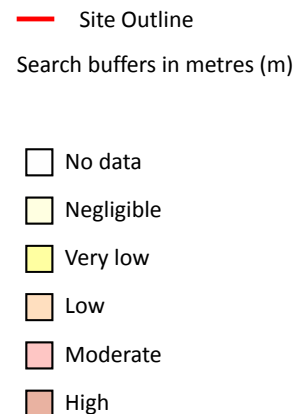
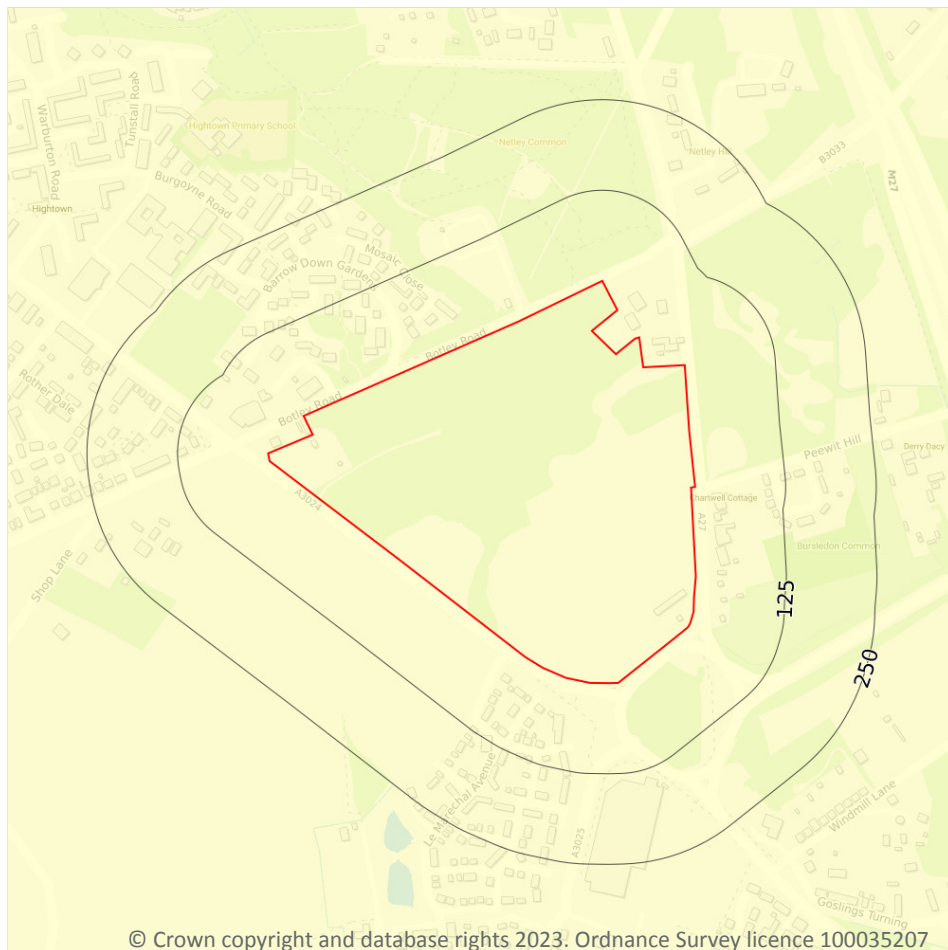
Features are displayed on the Natural ground subsidence - Landslides map on [page 95 >](#)

| Location | Hazard rating | Details                                                                                                                                                         |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On site  | Very low      | Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered. |

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Ground dissolution of soluble rocks



### 17.6 Ground dissolution of soluble rocks

#### Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 96](#)

| Location | Hazard rating | Details                                                                                                                                             |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| On site  | Negligible    | Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present. |

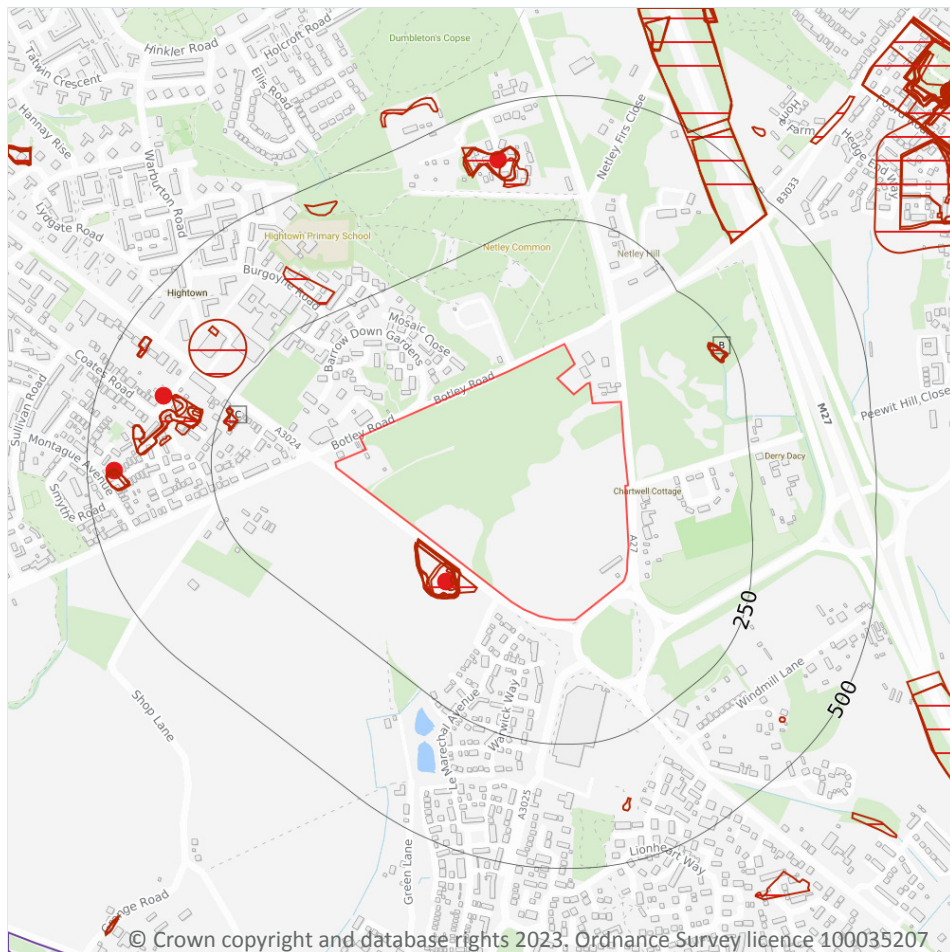




*This data is sourced from the British Geological Survey.*



## 18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

### 18.1 BritPits

#### Records within 500m

4

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on [page 98 >](#)



| ID | Location | Details                                                                                                                        | Description                                                                                                                                                                                                                                                                                                                              |
|----|----------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A  | 48m SW   | Name: Windhover Gravel Pit<br>Address: Bursledon, SOUTHAMPTON, Hampshire<br>Commodity: Sand & Gravel<br>Status: Ceased         | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |
| E  | 371m W   | Name: Netley Common Gravel Pit<br>Address: Hightown, SOUTHAMPTON, Hampshire<br>Commodity: Sand & Gravel<br>Status: Ceased      | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |
| F  | 393m N   | Name: Dumbleton's Copse Gravel Pit<br>Address: Thornhill, SOUTHAMPTON, Hampshire<br>Commodity: Sand & Gravel<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |
| H  | 446m W   | Name: Netley Common Gravel Pit<br>Address: Hightown, SOUTHAMPTON, Hampshire<br>Commodity: Sand & Gravel<br>Status: Ceased      | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |

*This data is sourced from the British Geological Survey.*

## 18.2 Surface ground workings

### Records within 250m

**21**

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 98 >](#)

| ID | Location | Land Use   | Year of mapping | Mapping scale |
|----|----------|------------|-----------------|---------------|
| A  | 13m SW   | Gravel Pit | 1908            | 1:10560       |
| A  | 15m SW   | Gravel Pit | 1908            | 1:10560       |
| A  | 15m SW   | Gravel Pit | 1908            | 1:10560       |



| ID | Location | Land Use        | Year of mapping | Mapping scale |
|----|----------|-----------------|-----------------|---------------|
| A  | 16m SW   | Gravel Pit      | 1898            | 1:10560       |
| A  | 17m SW   | Old Gravel Pit  | 1942            | 1:10560       |
| A  | 18m SW   | Gravel Pit      | 1895            | 1:10560       |
| A  | 21m SW   | Unspecified Pit | 1868            | 1:10560       |
| A  | 23m SW   | Old Gravel Pit  | 1957            | 1:10560       |
| A  | 24m SW   | Old Gravel Pit  | 1957            | 1:10560       |
| A  | 24m SW   | Old Gravel Pit  | 1957            | 1:10560       |
| B  | 206m NE  | Pond            | 1957            | 1:10560       |
| B  | 207m NE  | Pond            | 1908            | 1:10560       |
| B  | 207m NE  | Pond            | 1908            | 1:10560       |
| B  | 207m NE  | Pond            | 1908            | 1:10560       |
| B  | 208m NE  | Pond            | 1993            | 1:10000       |
| B  | 208m NE  | Pond            | 1967            | 1:10560       |
| B  | 208m NE  | Pond            | 1987            | 1:10000       |
| B  | 208m NE  | Pond            | 1977            | 1:10000       |
| C  | 214m W   | Pond            | 1908            | 1:10560       |
| C  | 215m W   | Pond            | 1908            | 1:10560       |
| C  | 215m W   | Pond            | 1908            | 1:10560       |

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.3 Underground workings

**Records within 1000m**

**0**

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

*This is data is sourced from Ordnance Survey/Groundsure.*



## 18.4 Underground mining extents

**Records within 500m****0**

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

*This data is sourced from Groundsure.*

## 18.5 Historical Mineral Planning Areas

**Records within 500m****0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

**Records within 1000m****0**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

*This data is sourced from the British Geological Survey.*

## 18.7 JPB mining areas

**Records on site****0**

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

*This data is sourced from Johnson Poole and Bloomer.*

## 18.8 The Coal Authority non-coal mining

**Records within 500m****0**

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the



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*This data is sourced from The Coal Authority.*

## 18.9 Researched mining

**Records within 500m**

**0**

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

*This data is sourced from Groundsure.*

## 18.10 Mining record office plans

**Records within 500m**

**0**

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

*This data is sourced from Groundsure.*

## 18.11 BGS mine plans

**Records within 500m**

**0**

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

*This data is sourced from Groundsure.*

## 18.12 Coal mining

**Records on site**

**0**

Areas which could be affected by past, current or future coal mining.

*This data is sourced from the Coal Authority.*



### 18.13 Brine areas

|                 |   |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

*This data is sourced from the Cheshire Brine Subsidence Compensation Board.*

### 18.14 Gypsum areas

|                 |   |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

### 18.15 Tin mining

|                 |   |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

### 18.16 Clay mining

|                 |   |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by kaolin and ball clay extraction.

*This data is sourced from the Kaolin and Ball Clay Association (UK).*

## 19 Ground cavities and sinkholes

### 19.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

*This data is sourced from Stantec UK Ltd.*

### 19.2 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

*This data is sourced from Stantec UK Ltd.*

### 19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

*This data is sourced from Groundsure.*

### 19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



*This data is sourced from Groundsure.*

## 19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

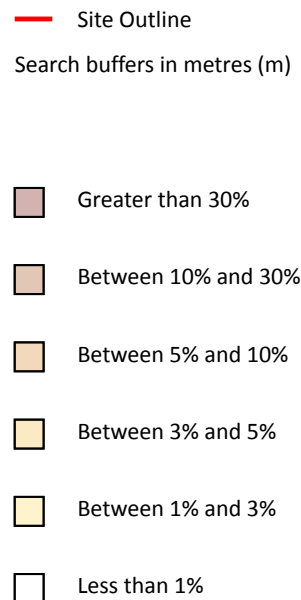
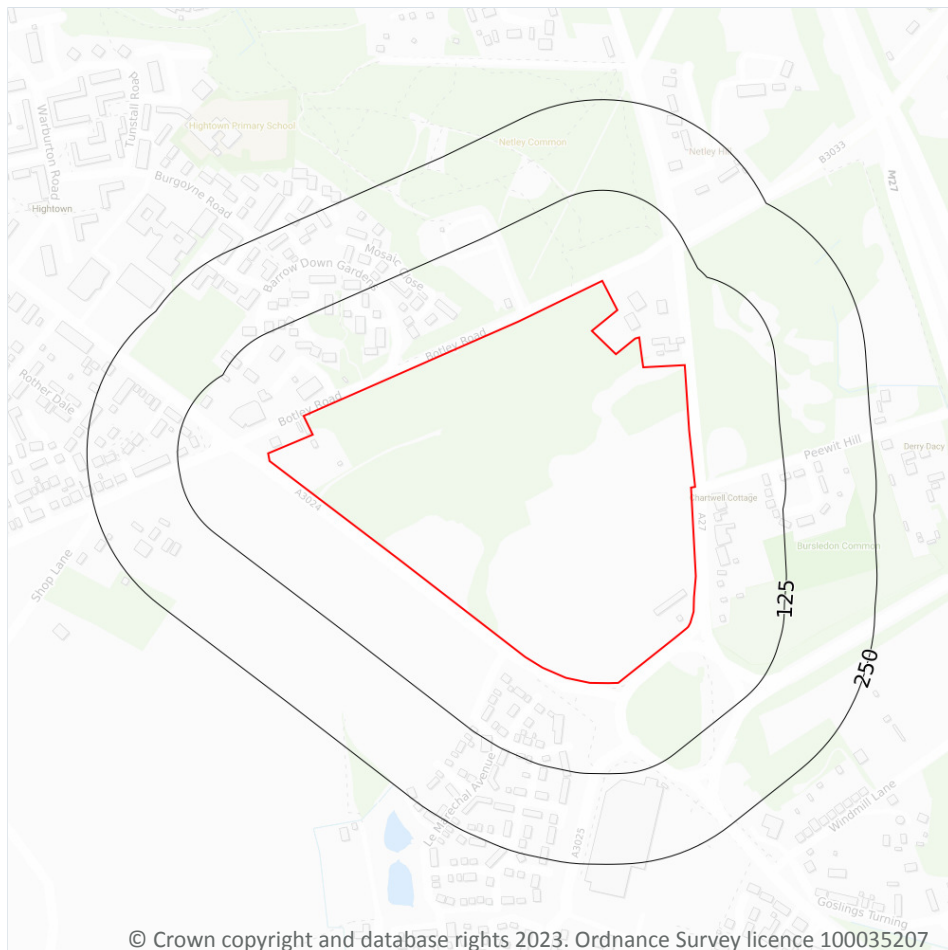
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

*This data is sourced from the British Geological Survey.*



## 20 Radon



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### 20.1 Radon

#### Records on site

1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 106 >](#)

| Location | Estimated properties affected | Radon Protection Measures required |
|----------|-------------------------------|------------------------------------|
| On site  | Less than 1%                  | None                               |



*This data is sourced from the British Geological Survey and UK Health Security Agency.*



## 21 Soil chemistry

### 21.1 BGS Estimated Background Soil Chemistry

Records within 50m

15

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km<sup>2</sup>. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km<sup>2</sup>; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

| Location | Arsenic  | Bioaccessible Arsenic | Lead      | Bioaccessible Lead | Cadmium   | Chromium       | Nickel        |
|----------|----------|-----------------------|-----------|--------------------|-----------|----------------|---------------|
| On site  | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| On site  | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| On site  | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| On site  | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| On site  | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| On site  | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 12m SE   | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 12m SE   | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 14m SE   | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 14m SE   | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 17m S    | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| 18m S    | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 36m NW   | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| 40m W    | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| 45m S    | 15 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |

*This data is sourced from the British Geological Survey.*





## 21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km<sup>2</sup>).

*This data is sourced from the British Geological Survey.*

## 21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km<sup>2</sup>.

*This data is sourced from the British Geological Survey.*



## 22 Railway infrastructure and projects

### 22.1 Underground railways (London)

**Records within 250m****0**

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

*This data is sourced from publicly available information by Groundsure.*

### 22.2 Underground railways (Non-London)

**Records within 250m****0**

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

*This data is sourced from publicly available information by Groundsure.*

### 22.3 Railway tunnels

**Records within 250m****0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

### 22.4 Historical railway and tunnel features

**Records within 250m****0**

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

*This data is sourced from Ordnance Survey/Groundsure.*

### 22.5 Royal Mail tunnels

**Records within 250m****0**

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.



*This data is sourced from Groundsure/the Postal Museum.*

## 22.6 Historical railways

**Records within 250m**

**0**

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

*This data is sourced from OpenStreetMap.*

## 22.7 Railways

**Records within 250m**

**0**

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 22.8 Crossrail 1

**Records within 500m**

**0**

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

*This data is sourced from publicly available information by Groundsure.*

## 22.9 Crossrail 2

**Records within 500m**

**0**

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

*This data is sourced from publicly available information by Groundsure.*

## 22.10 HS2

**Records within 500m**

**0**

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

*This data is sourced from HS2 Ltd.*



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WEST END ROAD, BURSLEDON, SO31 8BN

## Professional opinion



## Site plan



## Search results

### Not in a radon affected area

Local levels of radon are considered normal.

However, if an underground room makes up part of the accommodation, the property should be tested regardless of radon Affected Area status.

## Useful contacts

**UK Health Security Agency (UKHSA) / UKRadon**  
Radon Survey  
Chemical, Radiation and Environmental Hazards  
Chilton, Didcot  
Oxon  
OX11 0RQ  
<https://www.ukradon.org/> ↗

**UK Radon Association**  
<http://www.radonassociation.co.uk/> ↗

## Overview of findings and recommendations

### Radon

No further action is recommended based on the identified local levels of radon.

However, all basement and cellar areas are considered at additional risk from high radon levels. If an underground room such as a cellar or basement makes up part of the living or working accommodation, the property should be tested regardless of radon Affected Area status.

It should be noted that although this report uses the best available data this assessment is an estimation and is not based upon measurements. It is possible to find high radon levels in properties anywhere in the country, even in lower risk areas, as radon is everywhere in varying concentrations.





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Operations Director, Groundsure Ltd, Nile House, Nile Street, Brighton, BN1 1HW. Tel: 01273 257 755. Email: [info@groundsure.com](mailto:info@groundsure.com)

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WEST END ROAD, BURSLEDON,  
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**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82  
**Grid Ref:** 447692, 111294

**Map Name:** County Series

**Map date:** 1868-1869

**Scale:** 1:10,560

**Printed at:** 1:10,560



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Revised 1869  
Edition N/A  
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Surveyed 1868  
Revised 1868  
Edition N/A  
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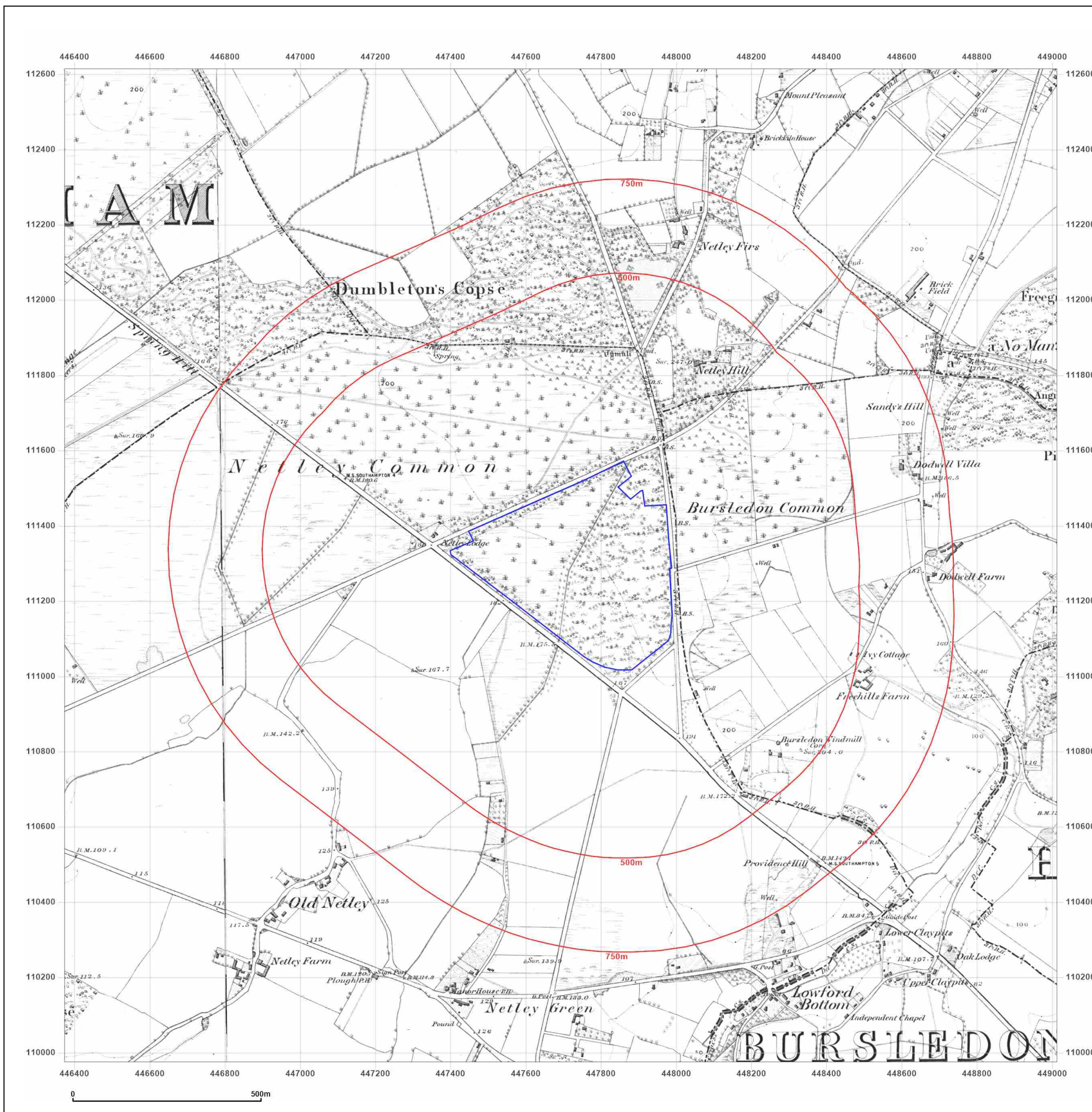


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**Report Ref:** GS-2F5-V7L-3KE-C82  
**Grid Ref:** 447692, 111294

**Map Name:** County Series

**Map date:** 1895-1896

**Scale:** 1:10,560

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Revised 1896  
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Surveyed 1867  
Revised 1895  
Edition N/A  
Copyright N/A  
Levelled N/A

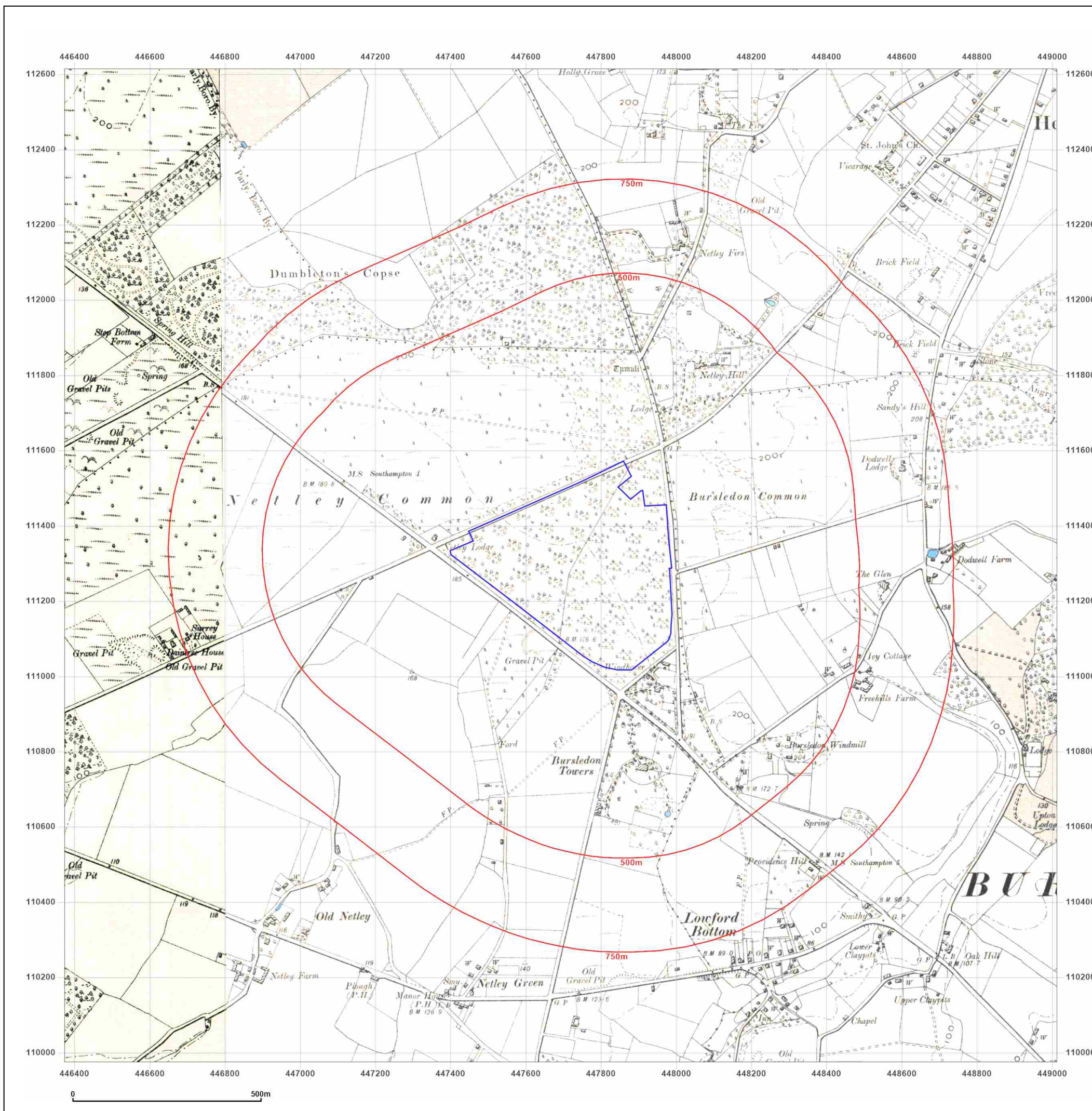


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**Scale:** 1:10,560

**Printed at:** 1:10,560



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Edition N/A  
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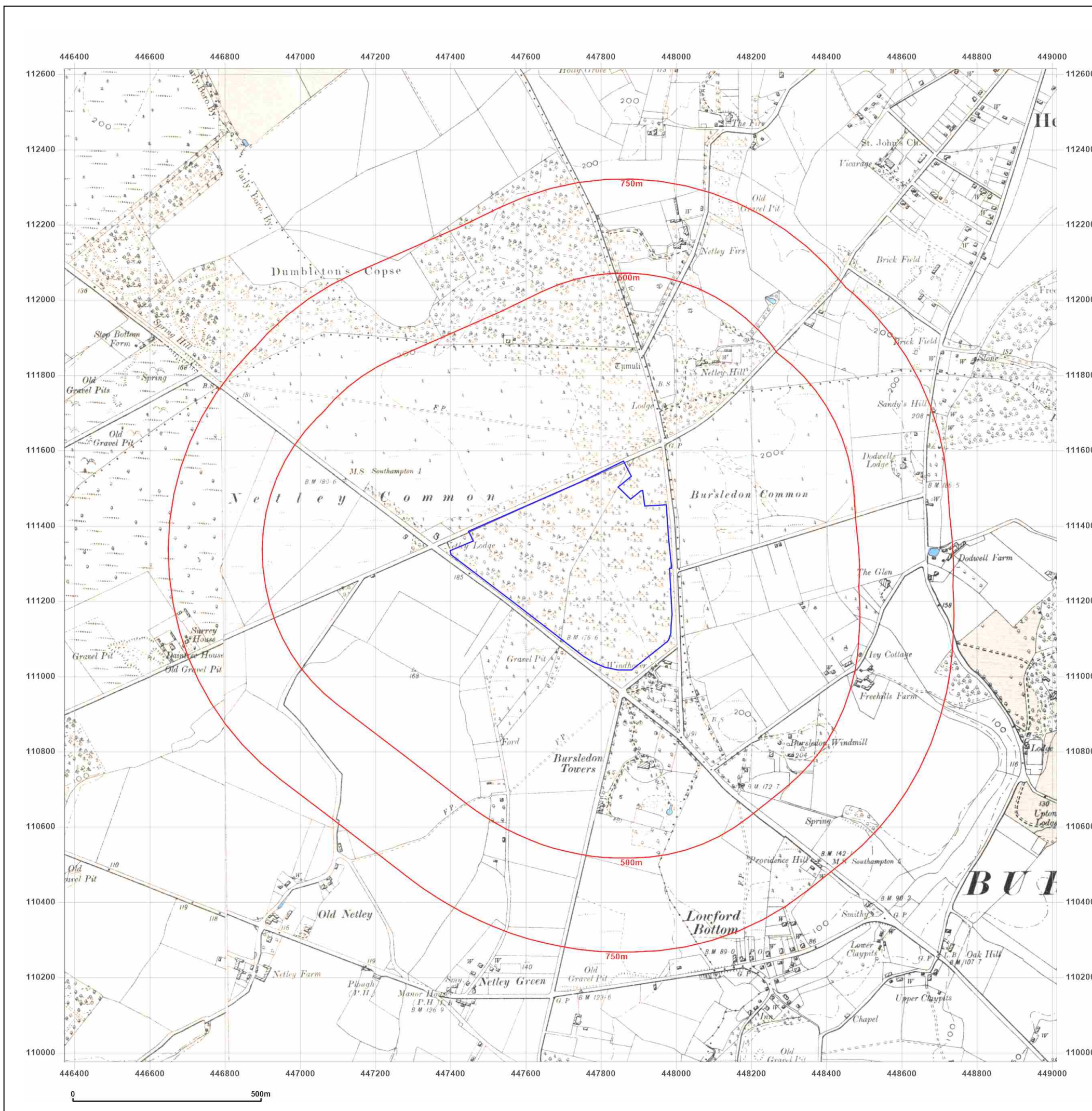


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**Grid Ref:** 447692, 111294

**Map Name:** County Series

**Map date:** 1908

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1867  
Revised 1908  
Edition N/A  
Copyright N/A  
Levelled N/A

Surveyed 1866  
Revised 1908  
Edition N/A  
Copyright N/A  
Levelled N/A

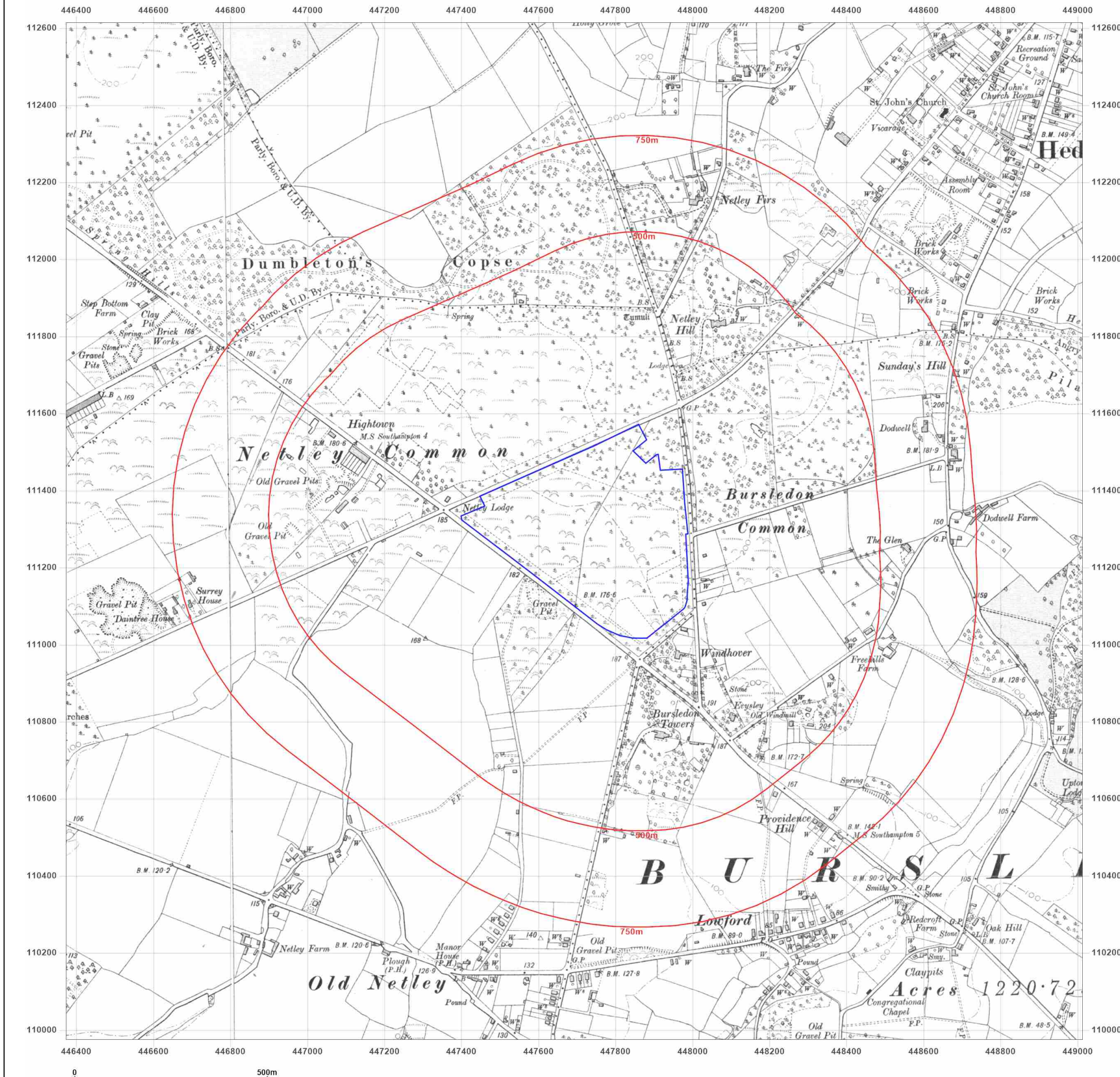


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**Site Details:**

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82  
**Grid Ref:** 447692, 111294

**Map Name:** County Series

**Map date:** 1908

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1866  
Revised 1908  
Edition N/A  
Copyright N/A  
Levelled N/A

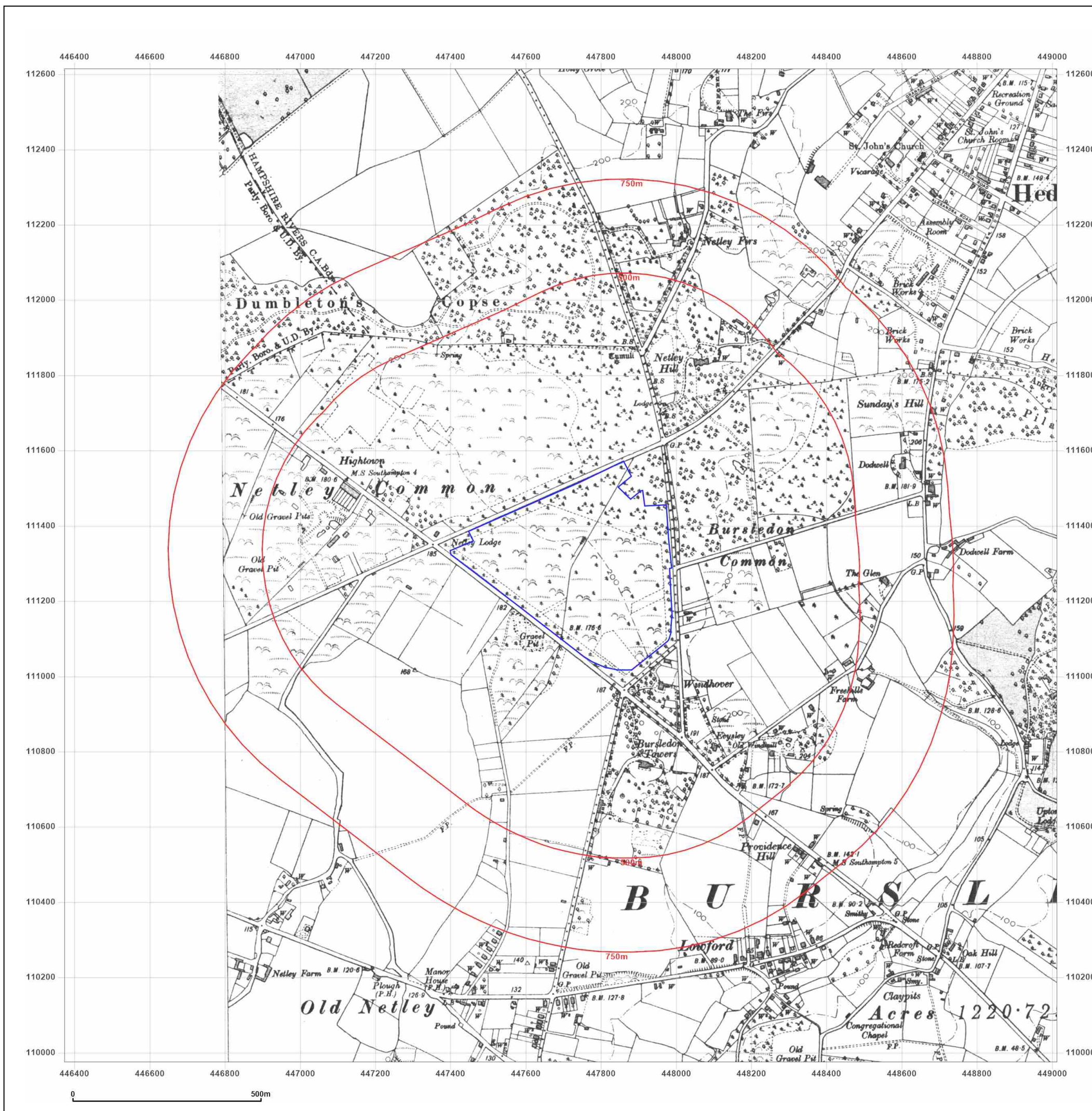


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#### Site Details:

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82  
**Grid Ref:** 447692, 111294

**Map Name:** County Series

**Map date:** 1938-1942

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1867  
Revised 1938  
Edition 1938  
Copyright N/A  
Levelled N/A

Surveyed 1866  
Revised 1942  
Edition N/A  
Copyright N/A  
Levelled N/A

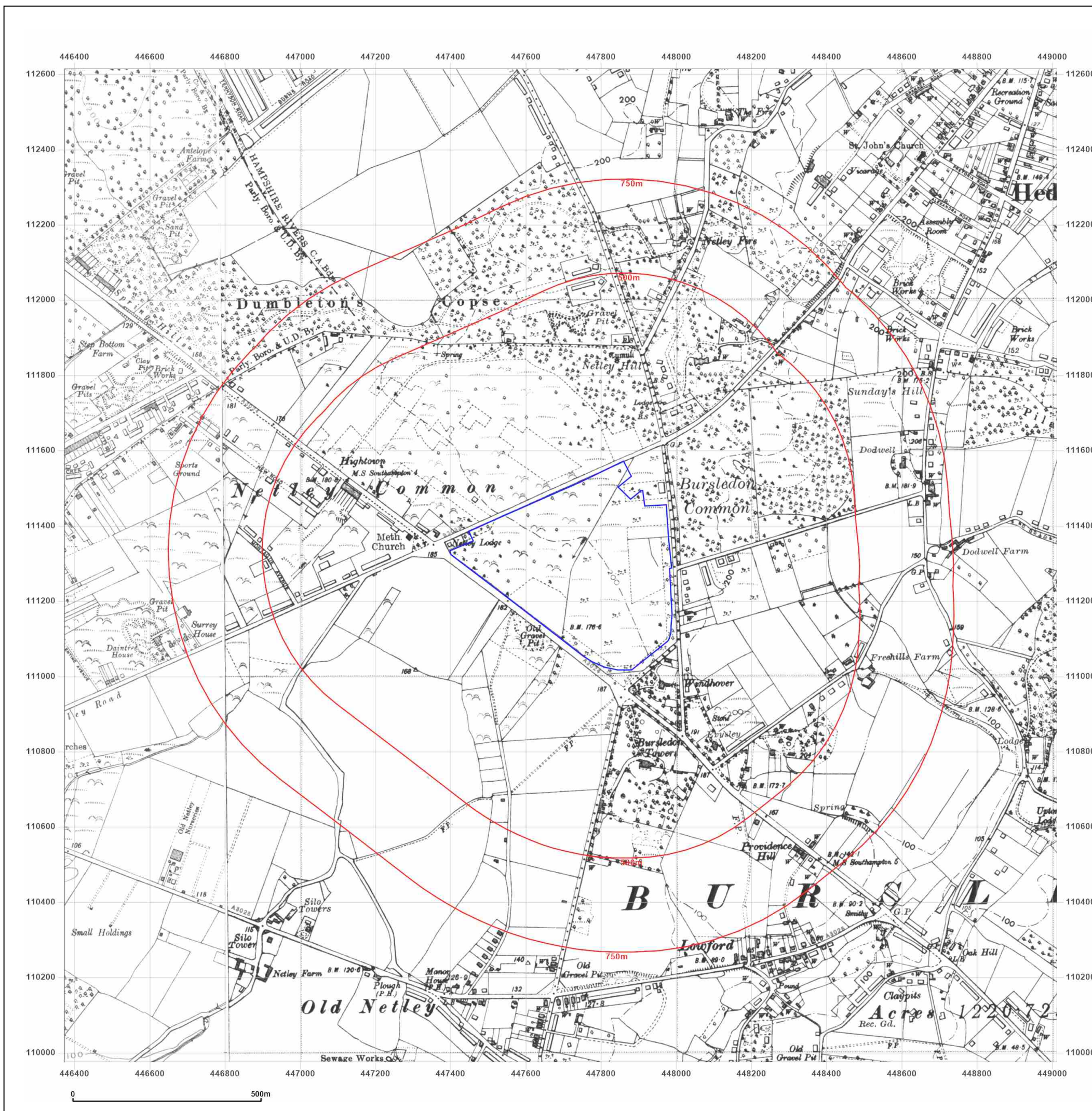


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**Site Details:**

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82  
**Grid Ref:** 447692, 111294

**Map Name:** Provisional

**Map date:** 1957

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1867  
Revised 1957  
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Copyright N/A  
Levelled N/A

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

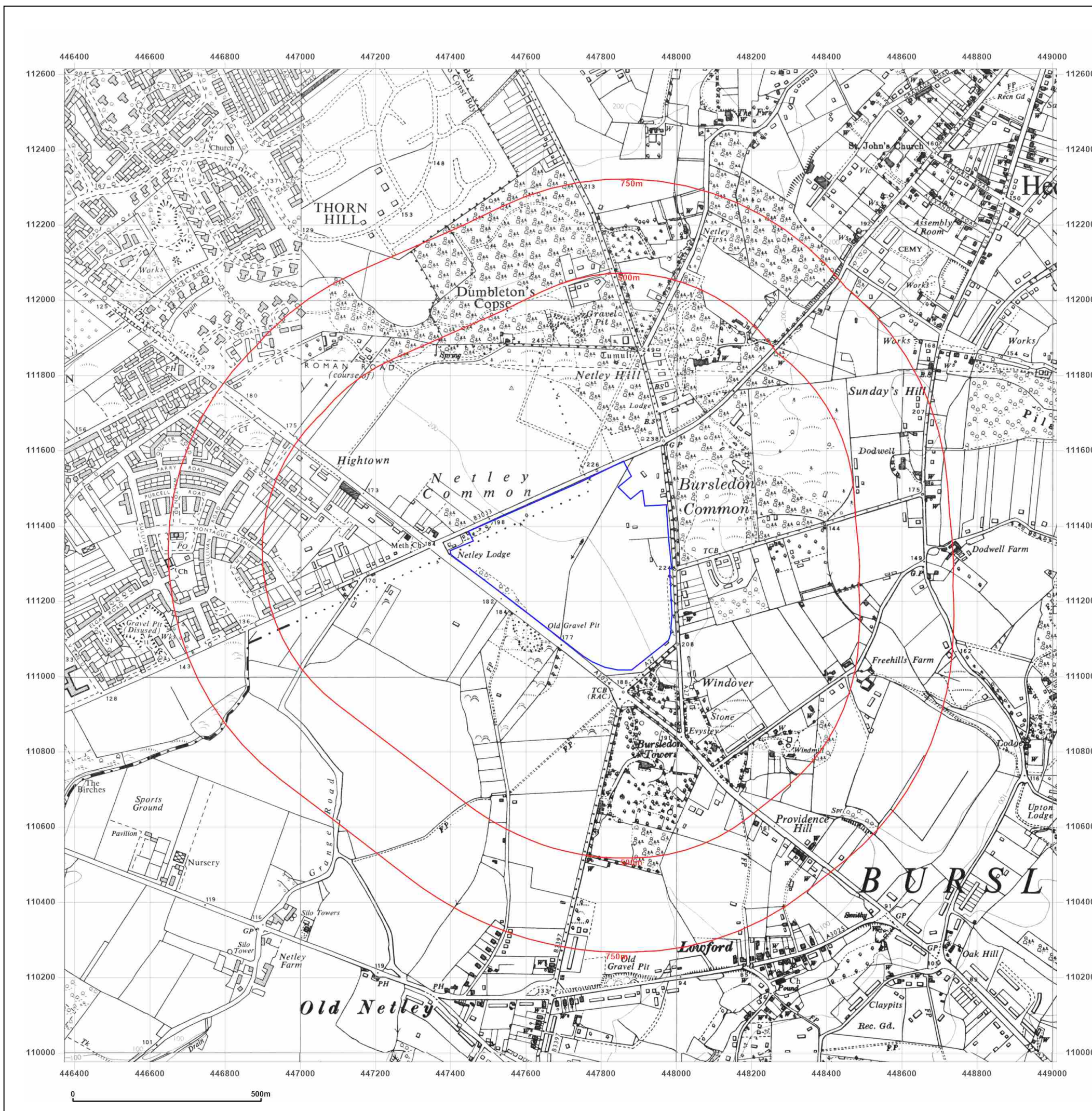


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**Site Details:**

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SO31 8BN

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**Grid Ref:** 447692, 111294

**Map Name:** Provisional

**Map date:** 1957

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**Printed at:** 1:10,560



Surveyed 1867  
Revised 1957  
Edition N/A  
Copyright N/A  
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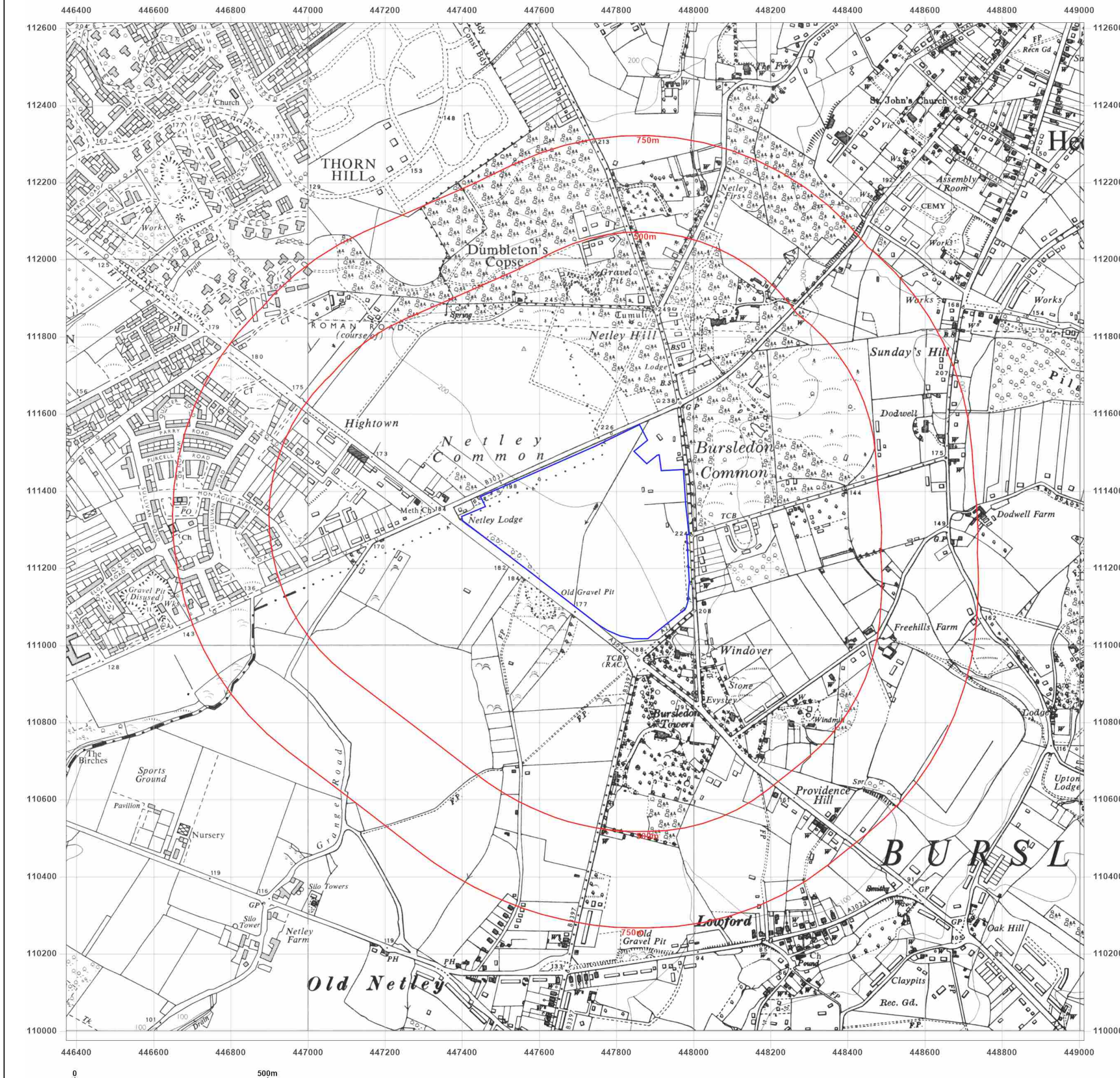


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**Grid Ref:** 447692, 111294

**Map Name:** Provisional

**Map date:** 1967

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1967  
Revised 1967  
Edition N/A  
Copyright N/A  
Levelled N/A

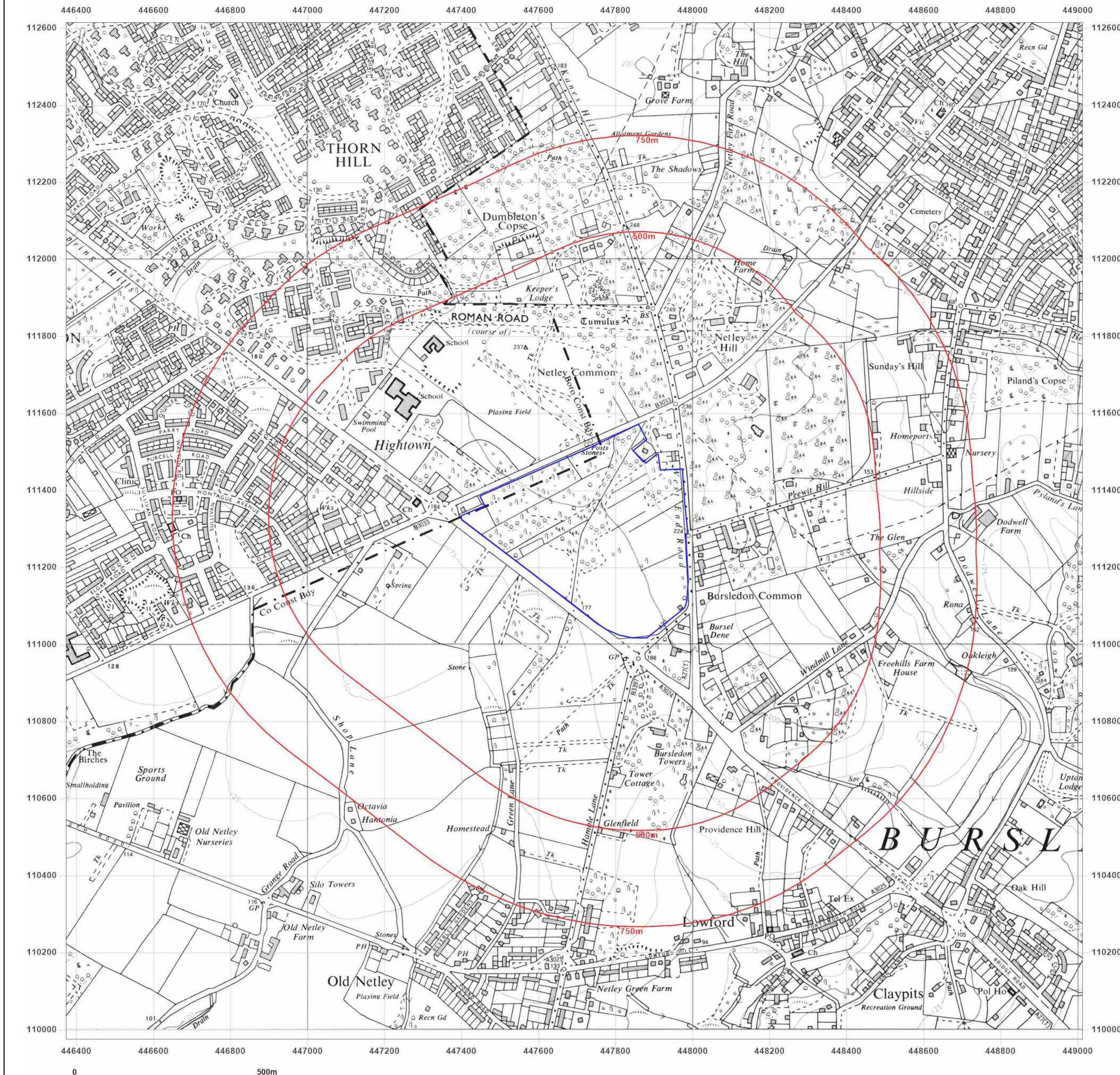


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SO31 8BN

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**Report Ref:** GS-2F5-V7L-3KE-C82  
**Grid Ref:** 447692, 111294

**Map Name:** National Grid

**Map date:** 1978

**Scale:** 1:10,000

**Printed at:** 1:10,000



Surveyed 1976  
Revised 1978  
Edition N/A  
Copyright 1978  
Levelled 1973

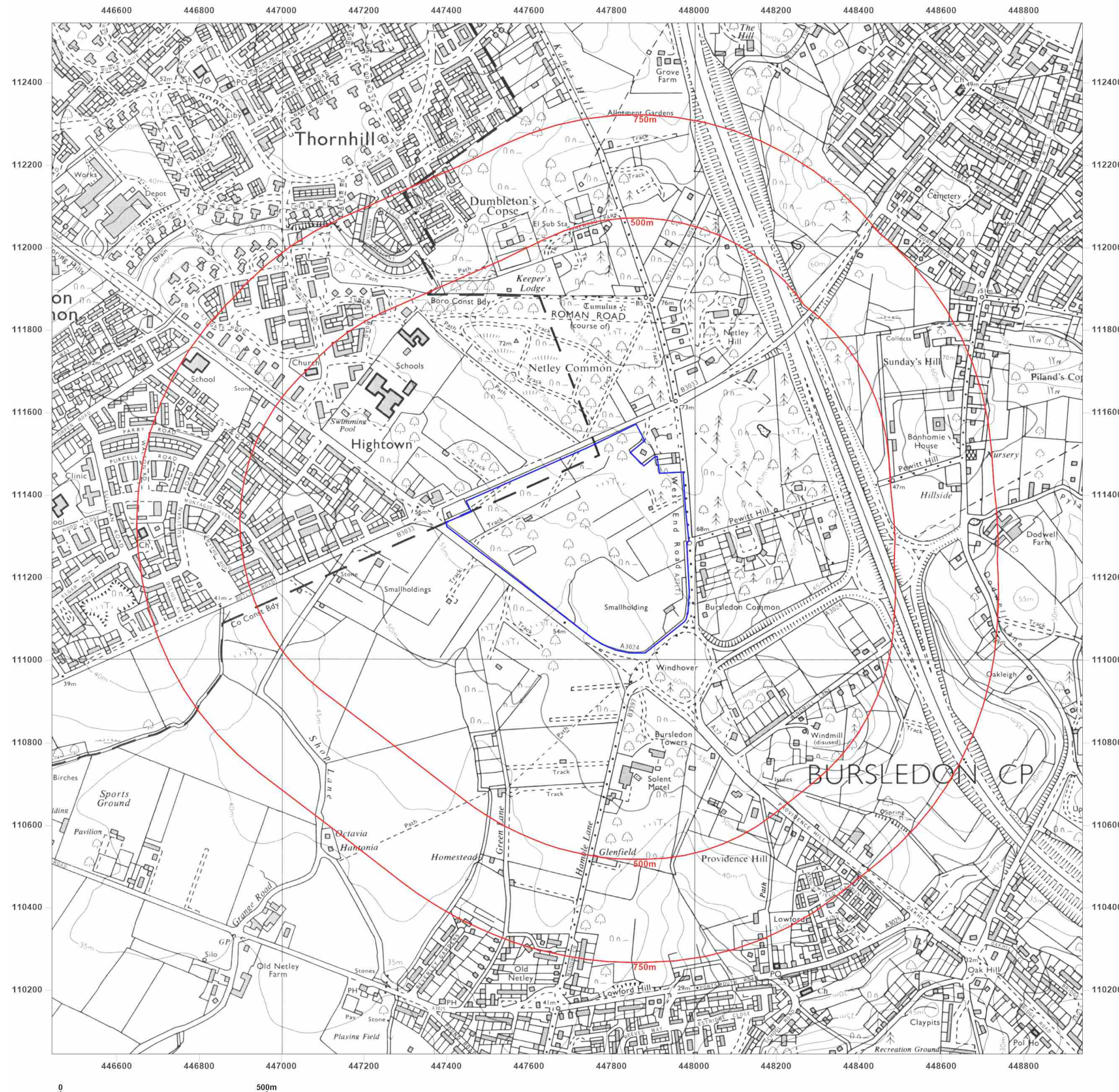


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SO31 8BN

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**Grid Ref:** 447692, 111294

**Map Name:** National Grid

**Map date:** 1987

**Scale:** 1:10,000

**Printed at:** 1:10,000



Surveyed 1985  
Revised 1987  
Edition N/A  
Copyright N/A  
Levelled N/A

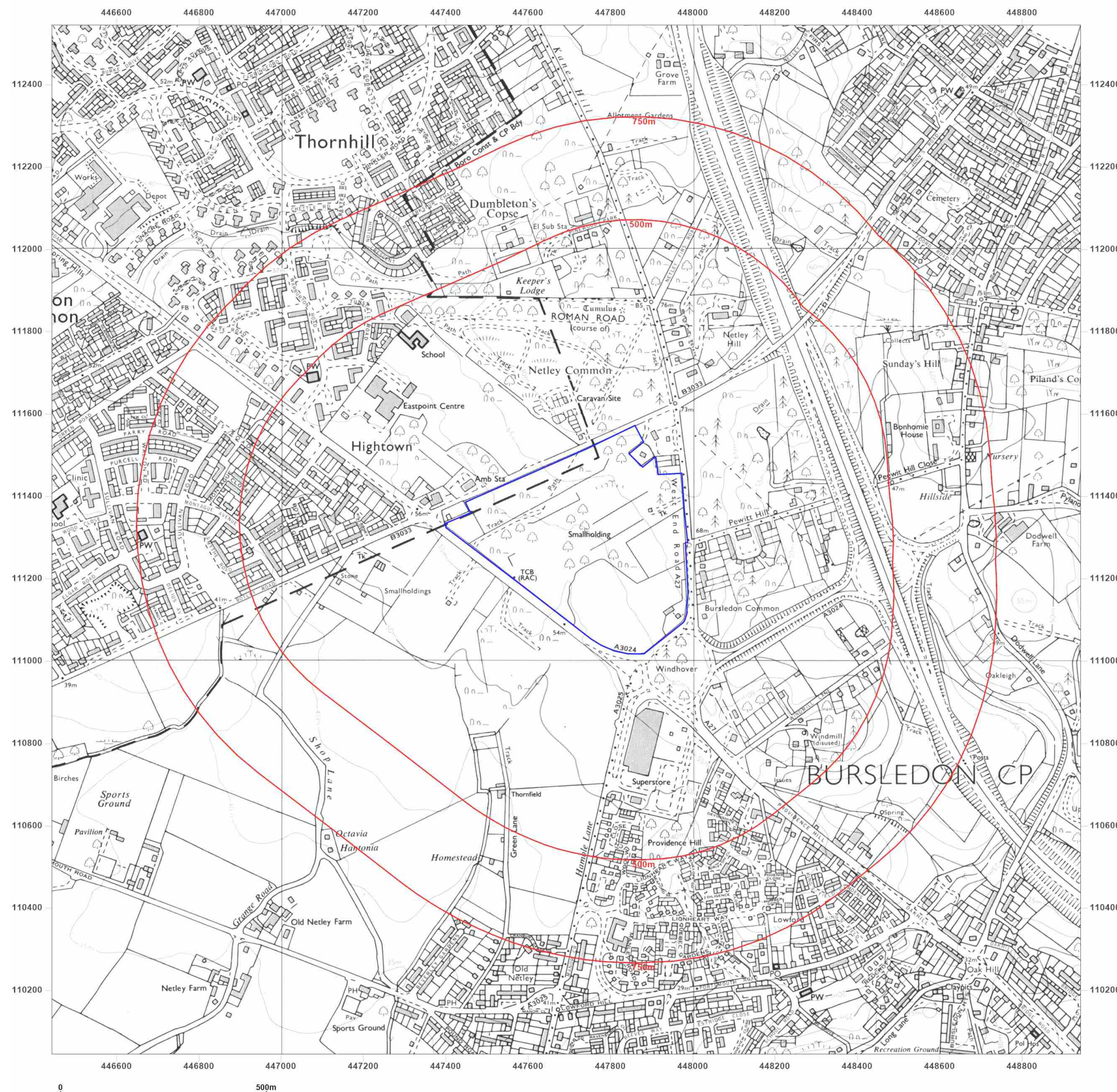


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#### Site Details:

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SO31 8BN

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**Report Ref:** GS-2F5-V7L-3KE-C82  
**Grid Ref:** 447692, 111294

**Map Name:** National Grid

**Map date:** 1993

**Scale:** 1:10,000

**Printed at:** 1:10,000



Surveyed 1991  
Revised 1993  
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**Map Name:** National Grid

**Map date:** 2001

**Scale:** 1:10,000

**Printed at:** 1:10,000



2001

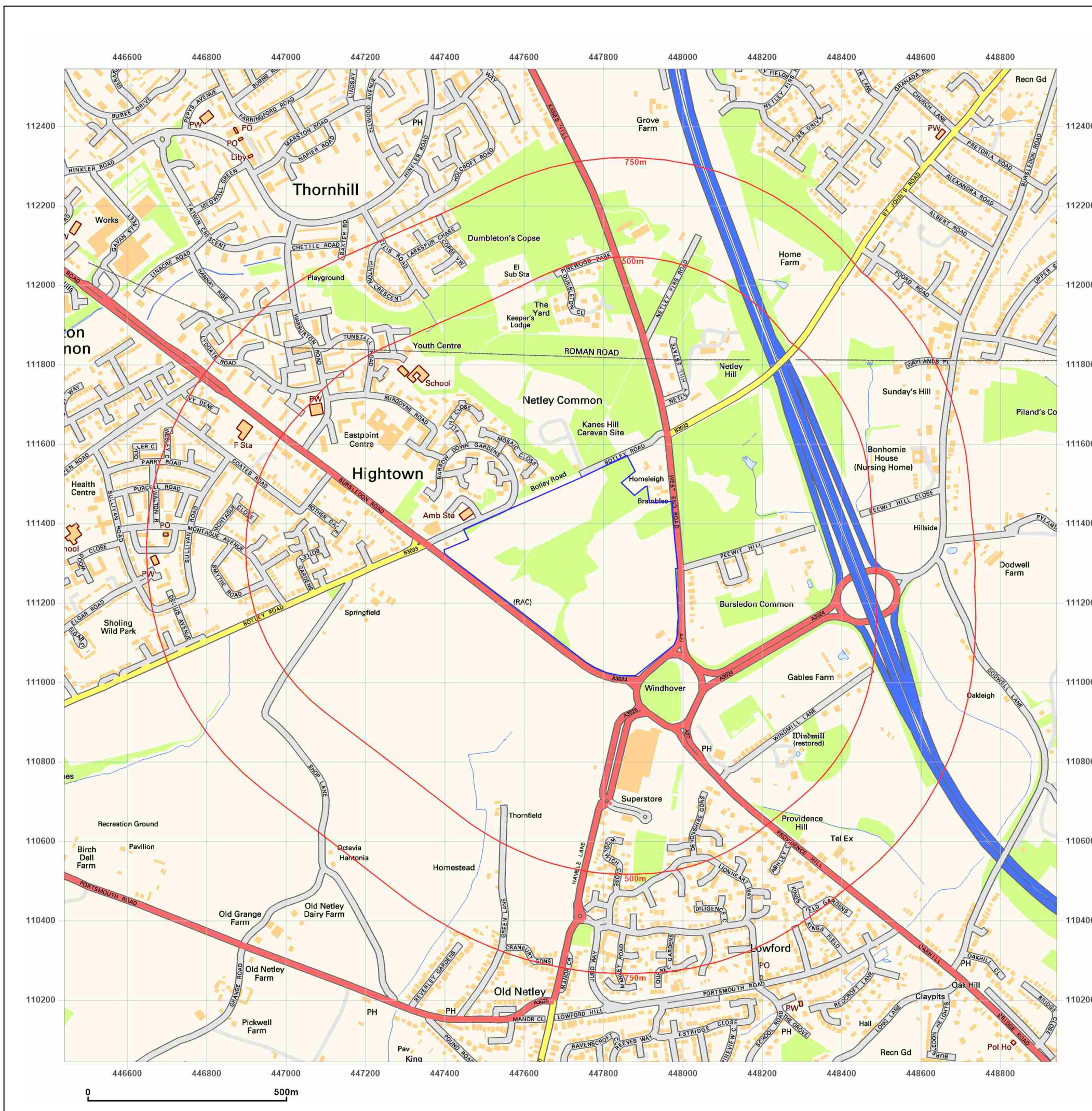


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**Map Name:** National Grid

**Map date:** 2010

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2010

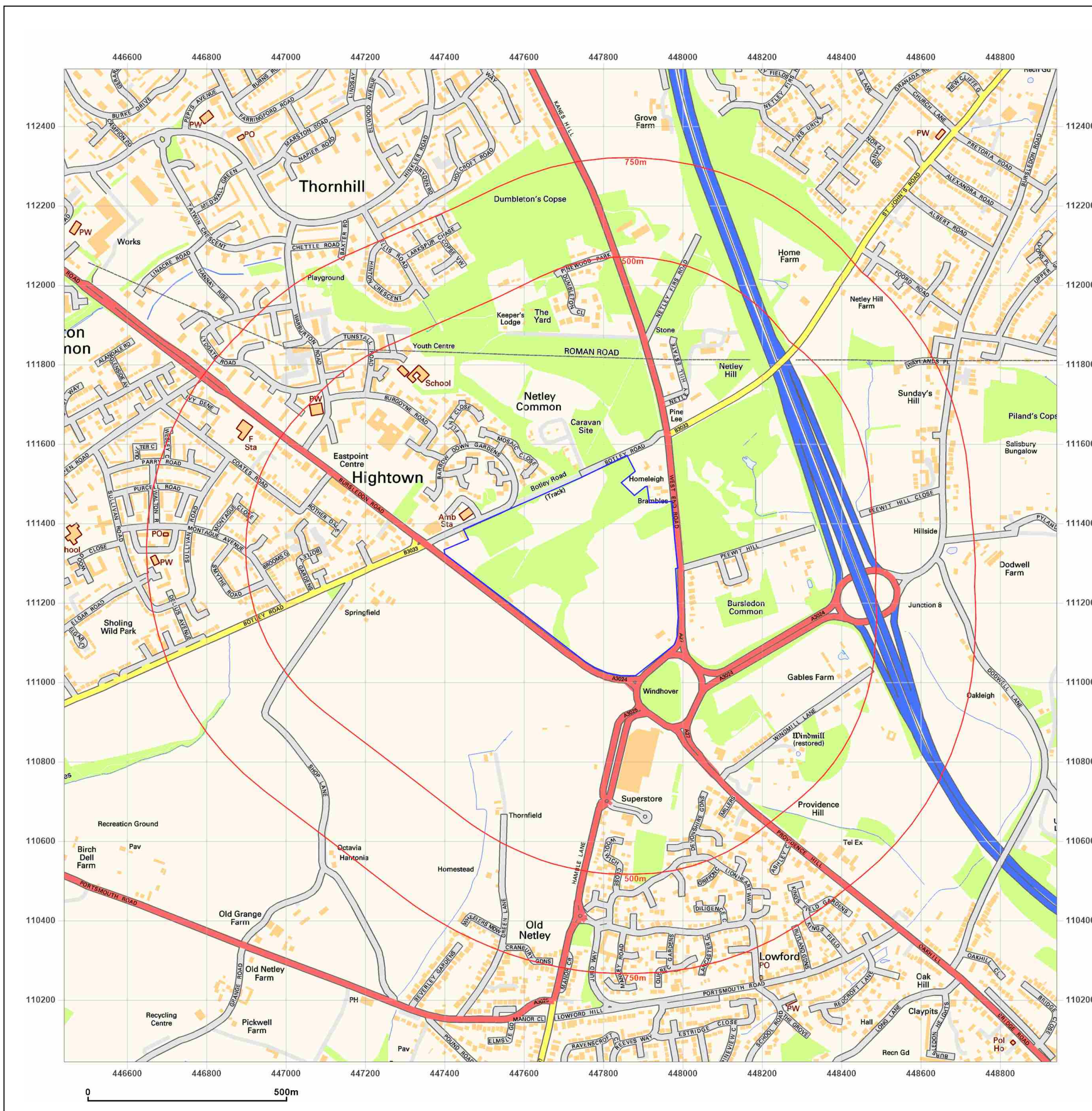


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**Report Ref:** GS-2F5-V7L-3KE-C82  
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**Map Name:** National Grid

**Map date:** 2023

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**Printed at:** 1:10,000



2023

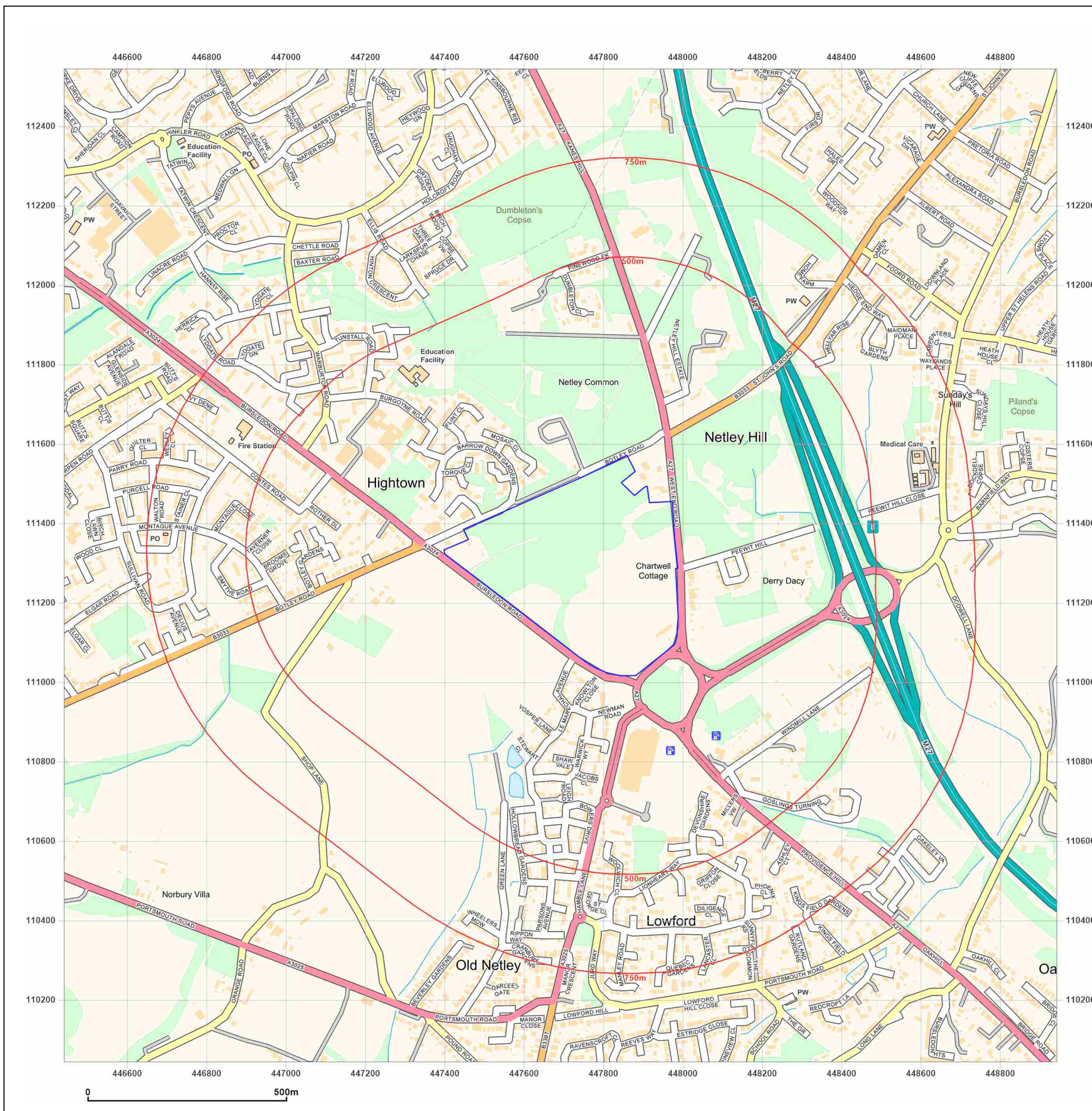


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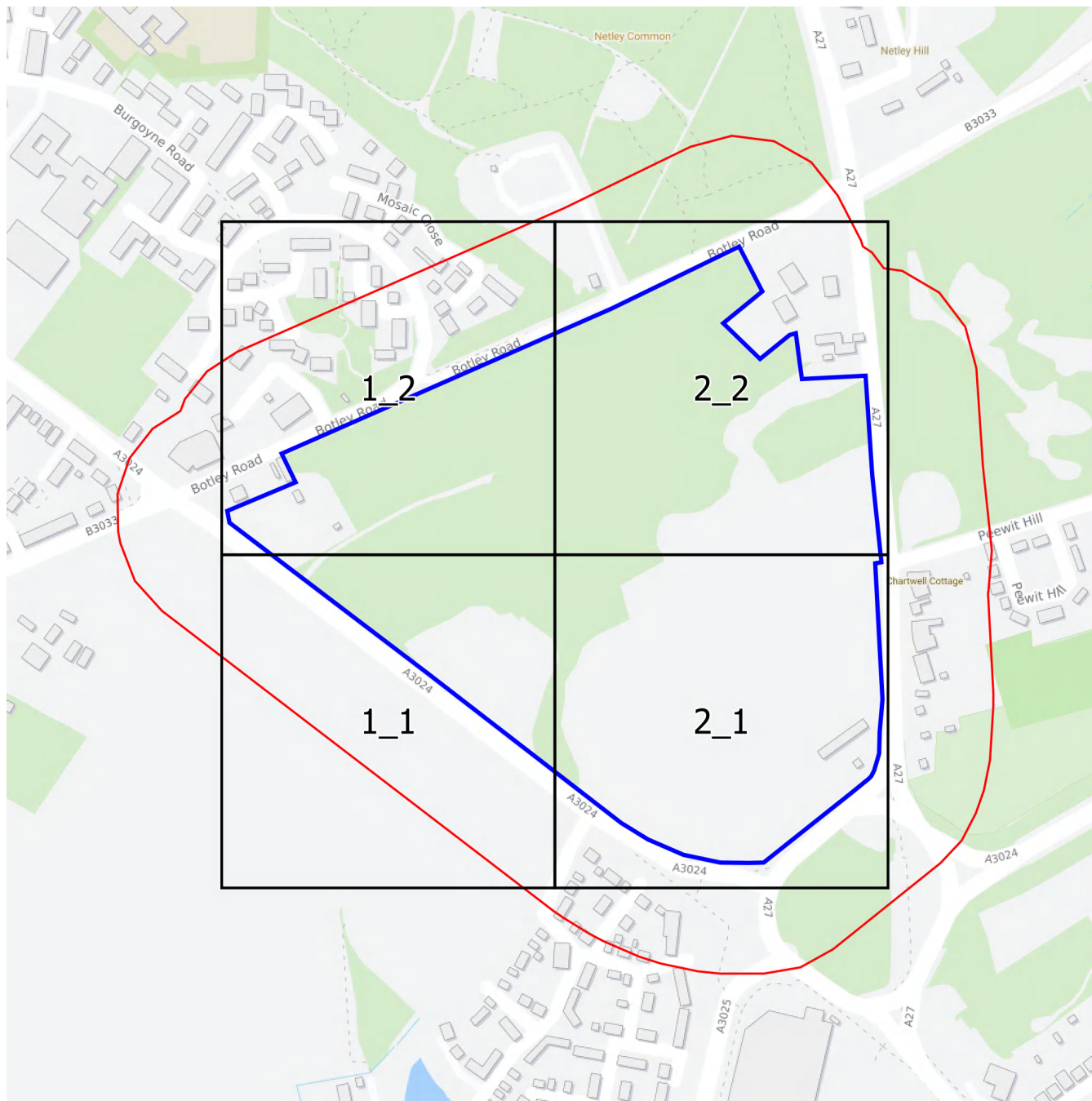
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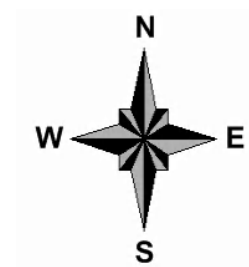






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INSIGHTS

Landline Scale Grid Index







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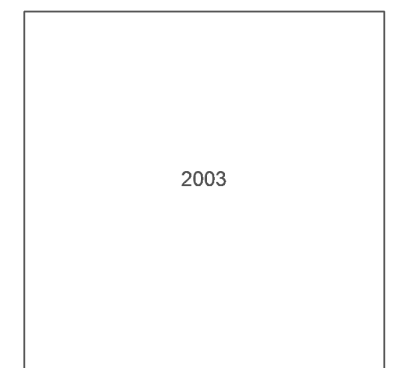
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**Grid Ref:** 447542, 111444

**Map Name:** LandLine

**Map date:** 2003

**Scale:** 1:1,250

**Printed at:** 1:1,250



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SO31 8BN

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**Map Name:** LandLine

**Map date:** 2003

**Scale:** 1:1,250

**Printed at:** 1:1,250



2003



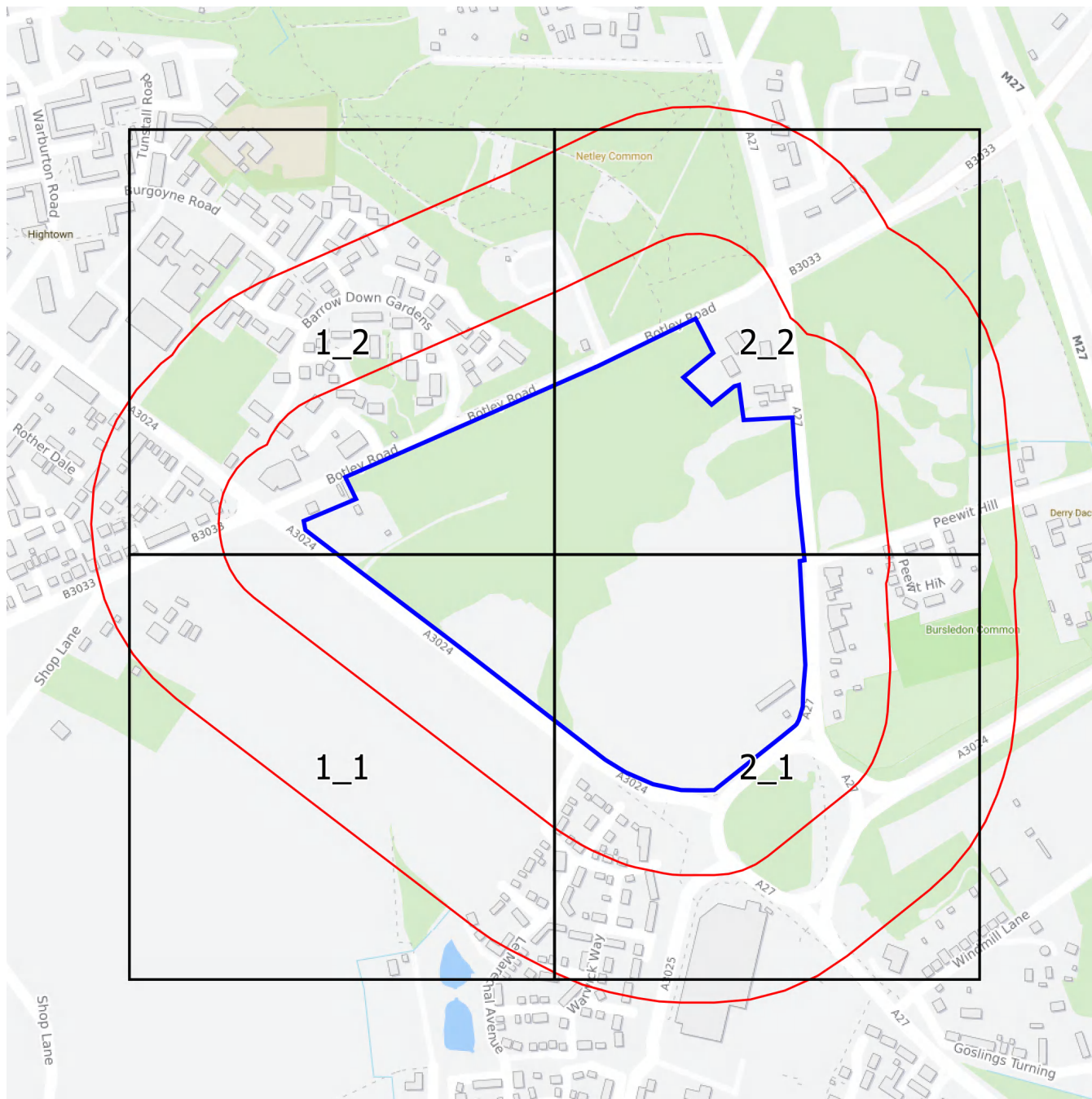
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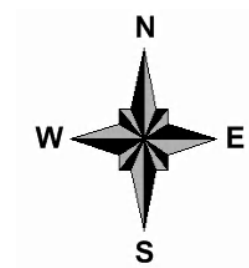
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1:1,250 Scale Grid Index





#### Site Details:

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SO31 8BN

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**Report Ref:** GS-2F5-V7L-3KE-C82\_1250\_1\_1  
**Grid Ref:** 447442, 111044

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:1,250

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



Surveyed 1969  
Revised 1969  
Edition N/A  
Copyright 1970  
Levelled 1959

Surveyed 1969  
Revised 1969  
Edition N/A  
Copyright 1970  
Levelled 1959

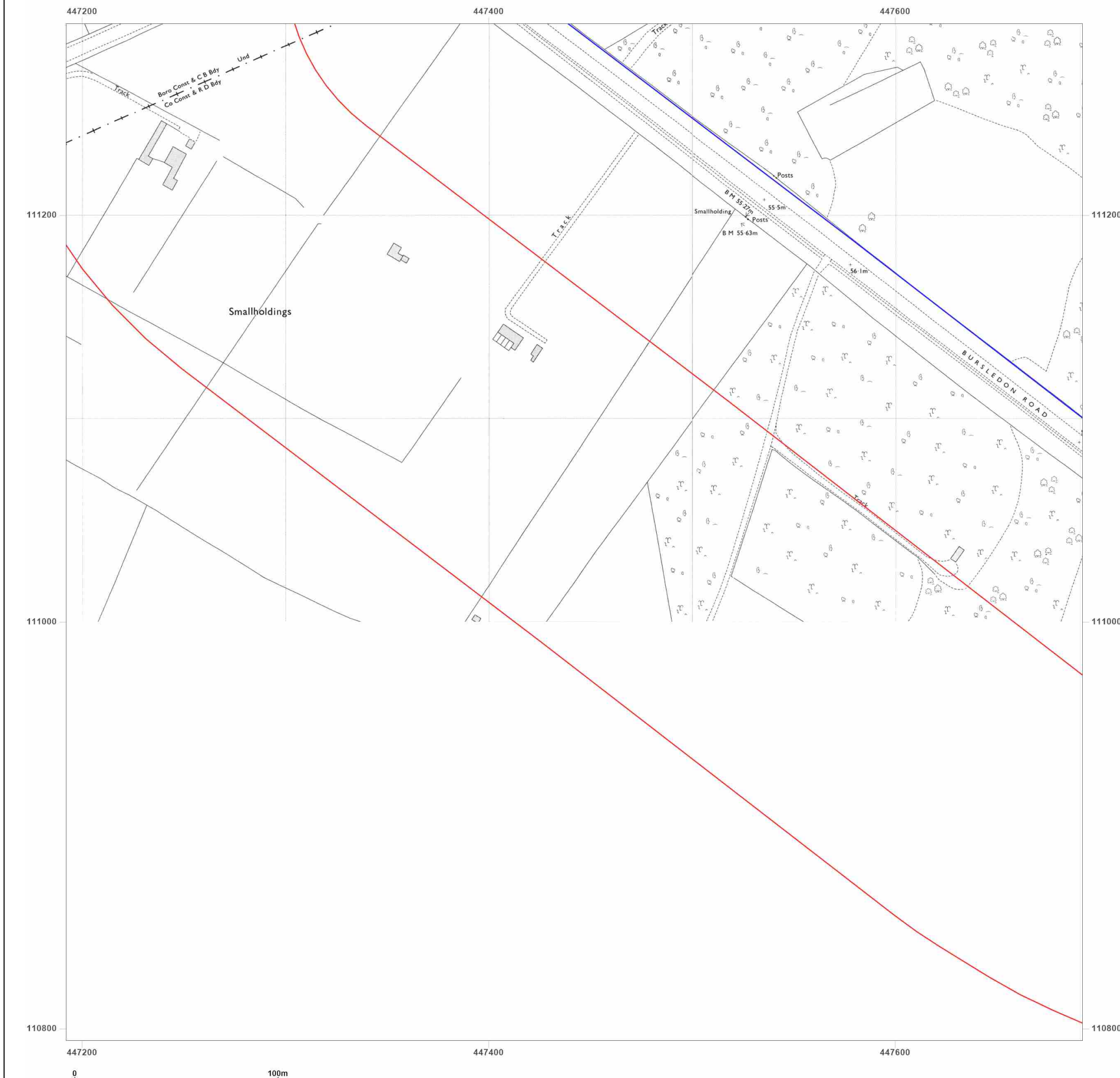


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**Site Details:**

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**Grid Ref:** 447442, 111044

**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 1974  
Levelled N/A

Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1974  
Levelled N/A

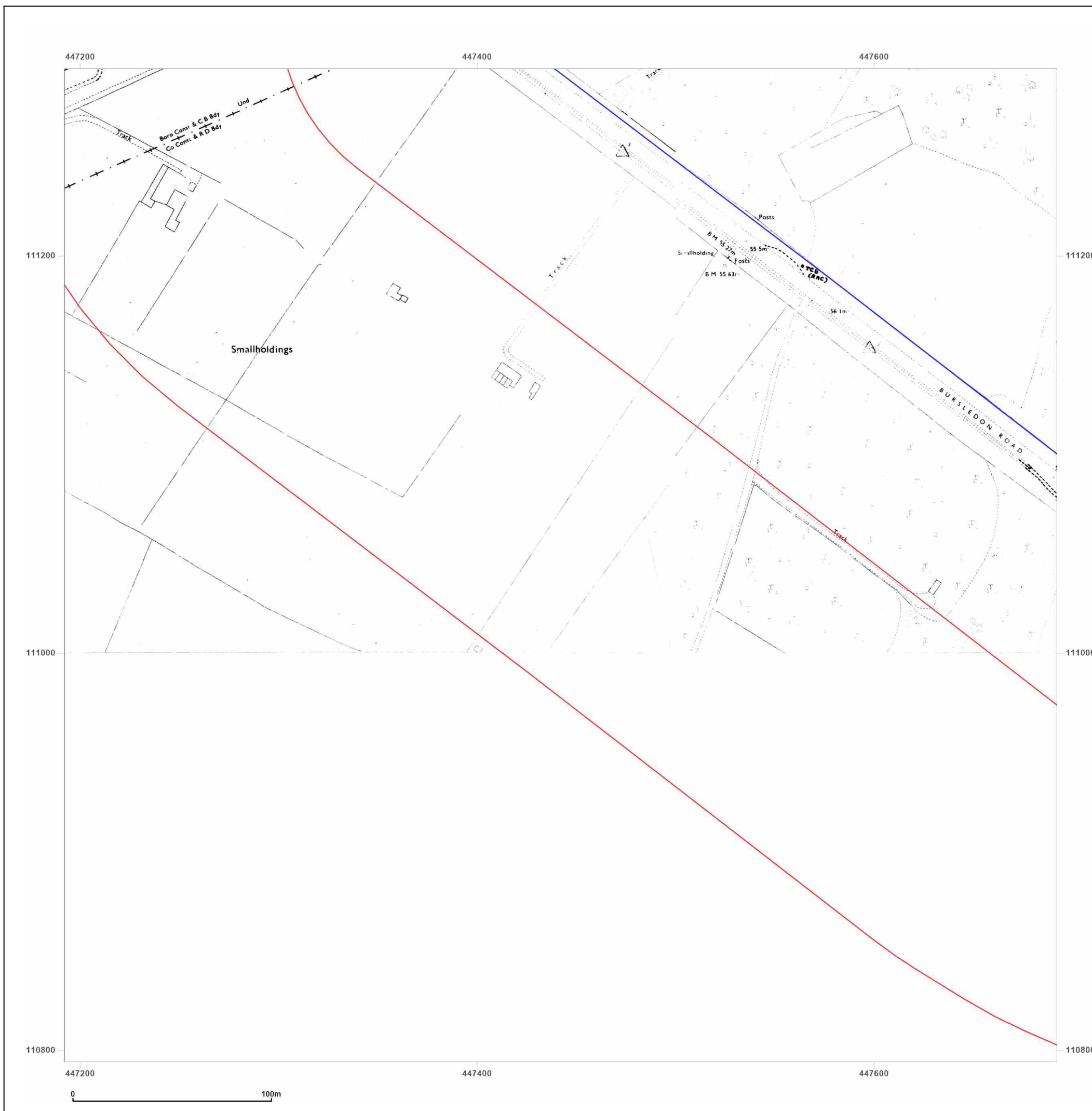


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SO31 8BN

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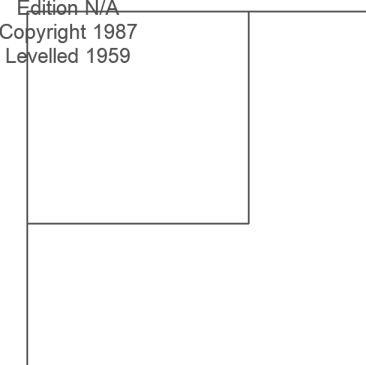
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**Printed at:** 1:2,000



Surveyed 1959  
Revised 1987  
Edition N/A  
Copyright 1987  
Levelled 1959

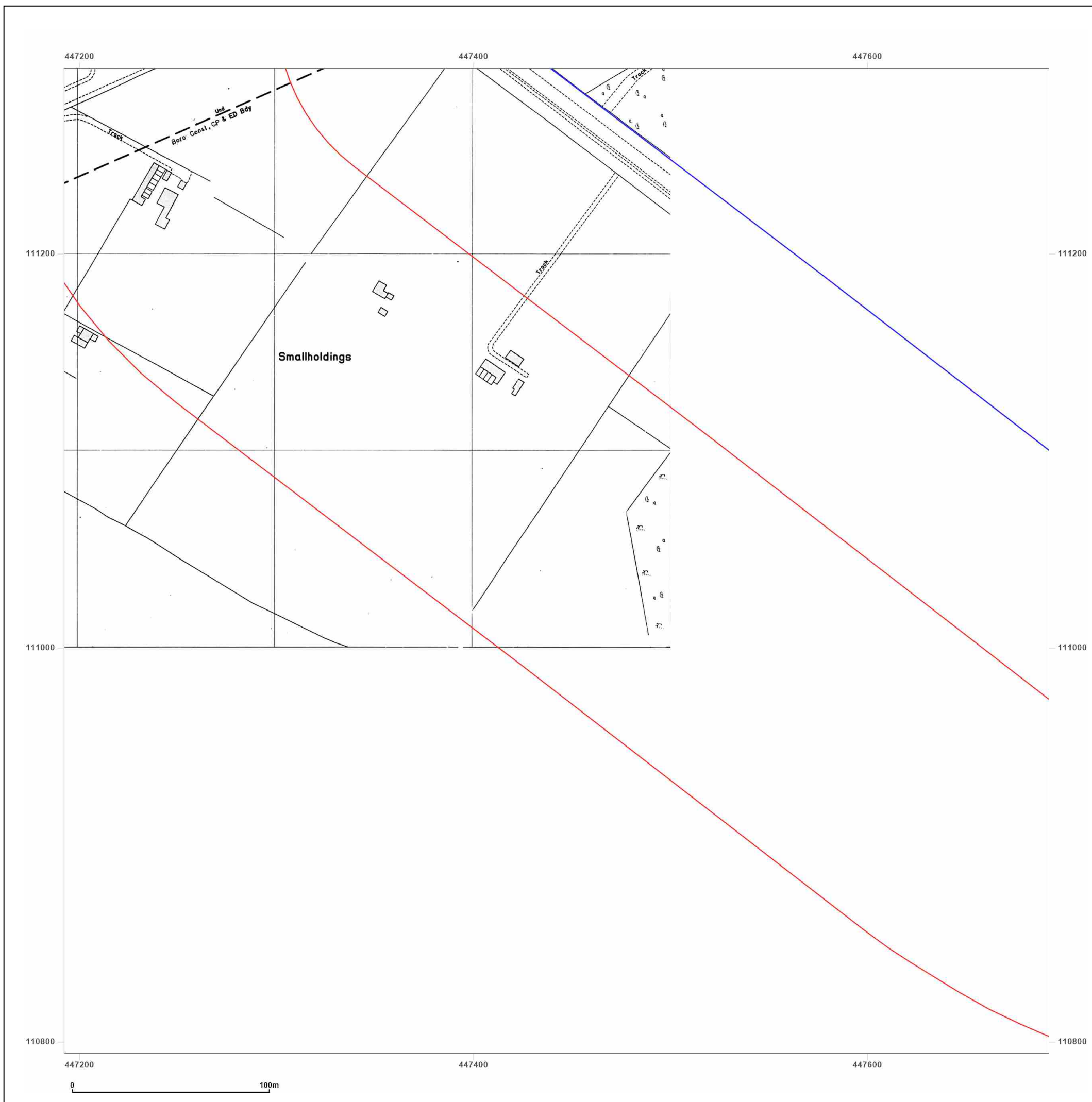


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**Grid Ref:** 447442, 111044

**Map Name:** National Grid

**Map date:** 1993

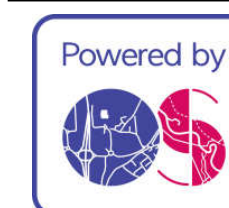
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Surveyed 1993  
Revised N/A  
Edition N/A  
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Levelled N/A

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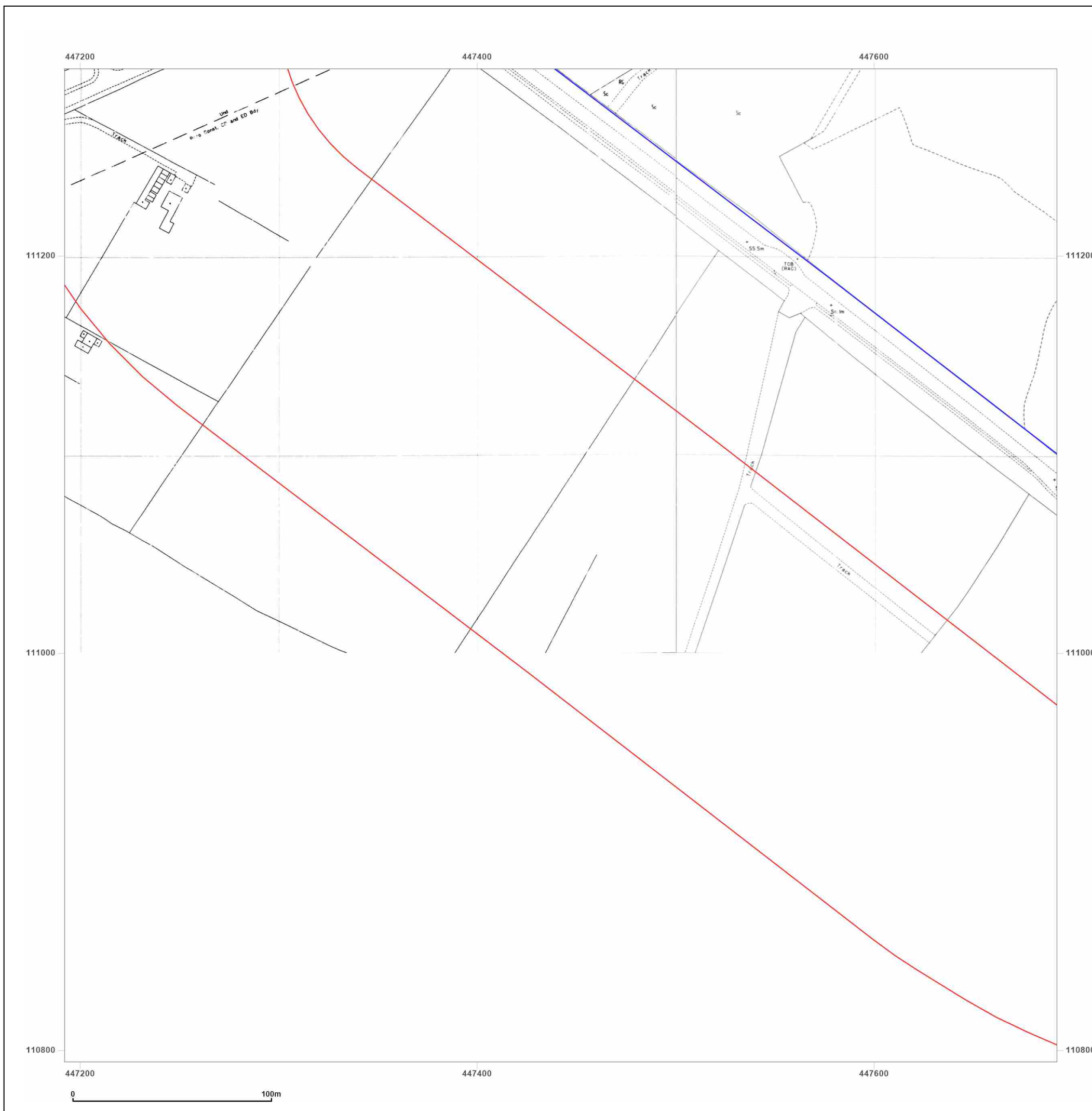


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SO31 8BN

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**Report Ref:** GS-2F5-V7L-3KE-C82\_1250\_1\_2  
**Grid Ref:** 447442, 111544

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:1,250

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



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Revised 1969  
Edition N/A  
Copyright 1970  
Levelled 1959

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Copyright 1970  
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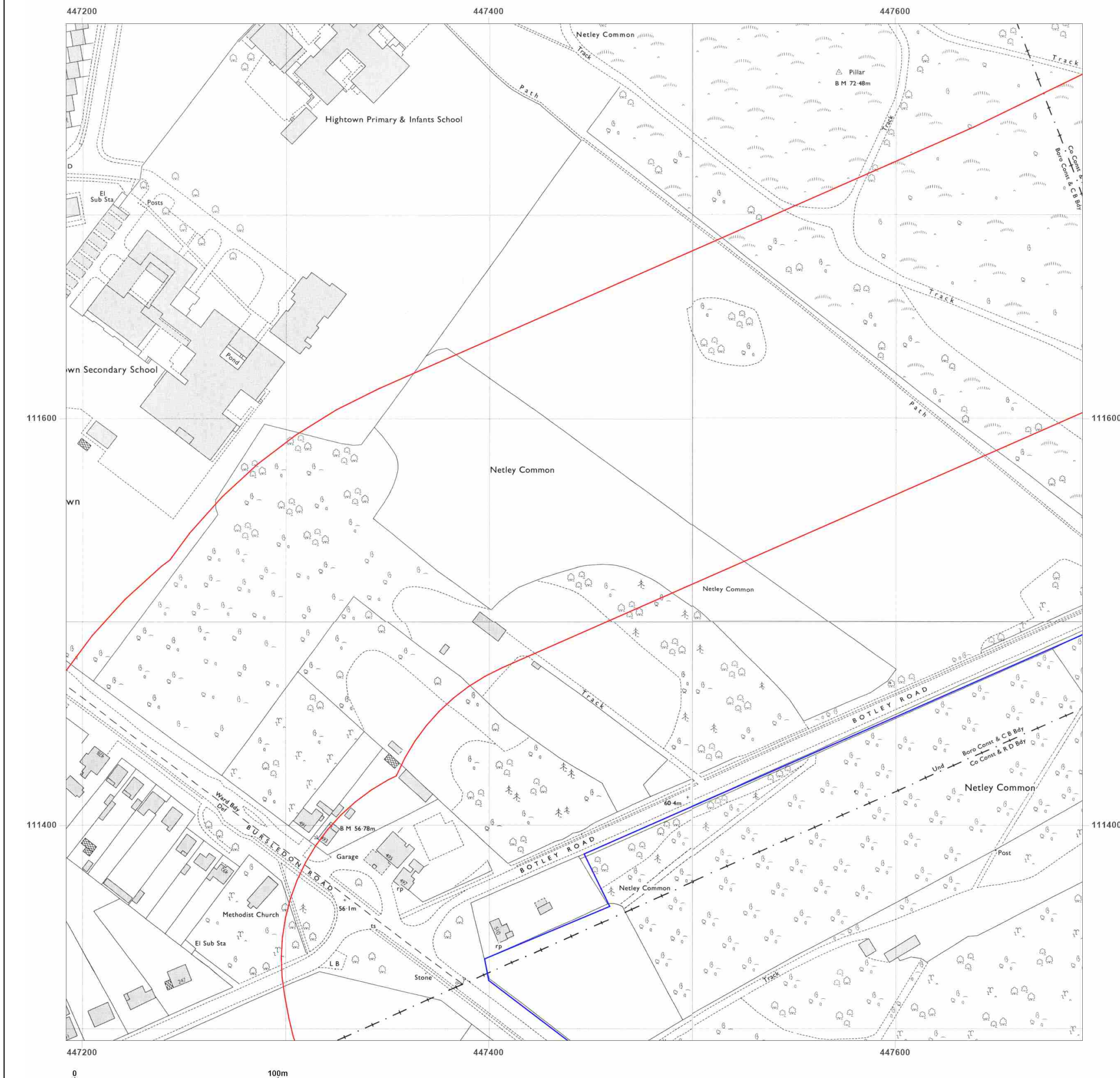


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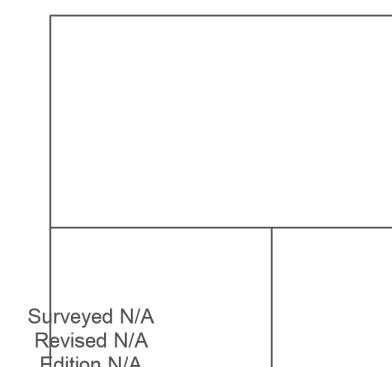
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**Map date:** 1974

**Scale:** 1:1,250

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



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Revised N/A  
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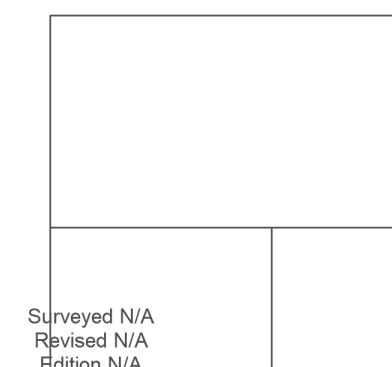
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**Printed at:** 1:2,000



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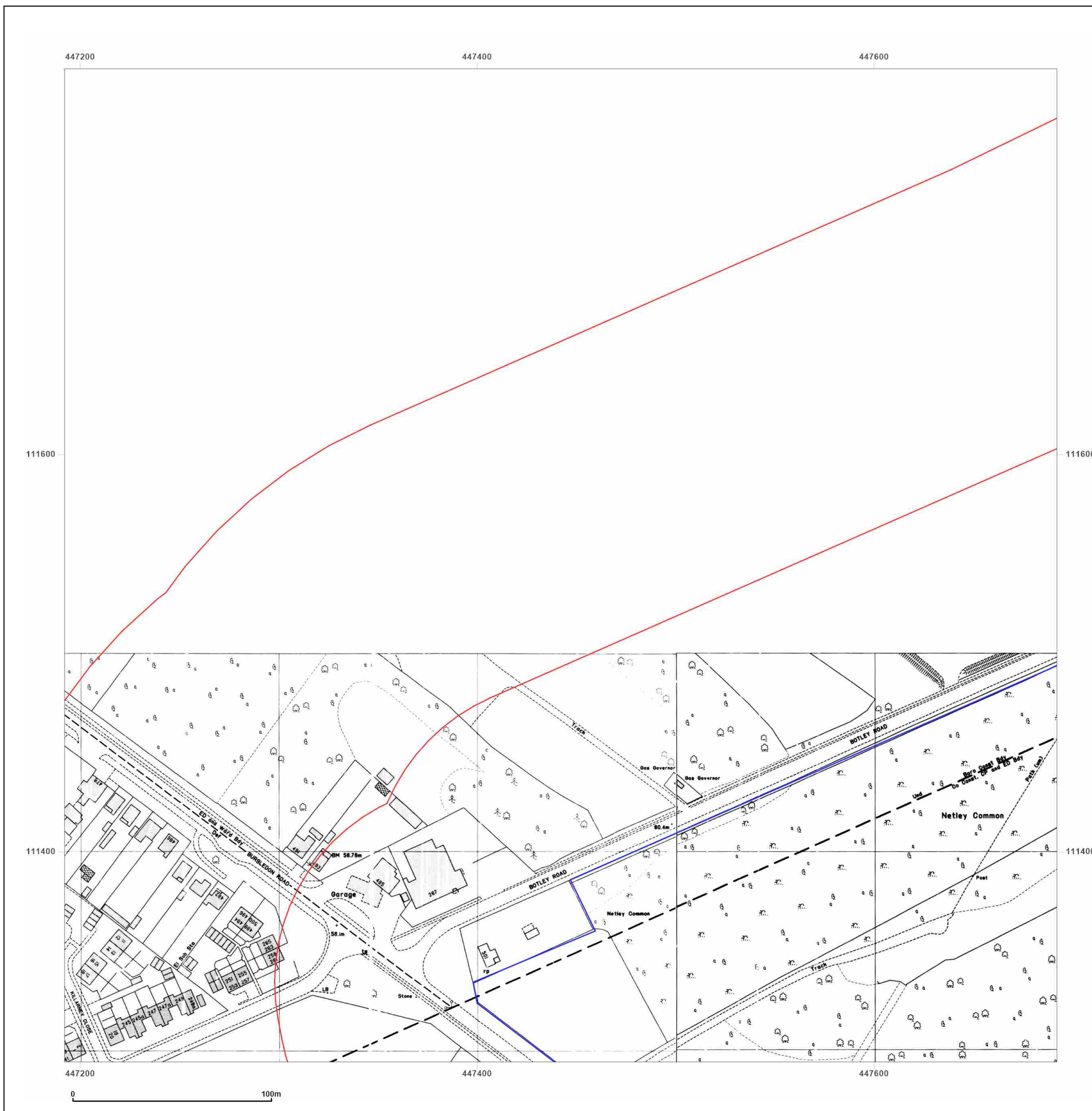


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#### Site Details:

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_1250\_1\_2  
**Grid Ref:** 447442, 111544

**Map Name:** National Grid

**Map date:** 1987-1990

**Scale:** 1:1,250

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



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SO31 8BN

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**Grid Ref:** 447442, 111544

**Map Name:** National Grid

**Map date:** 1993

**Scale:** 1:1,250

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



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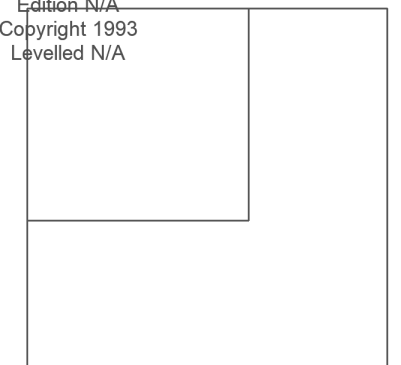
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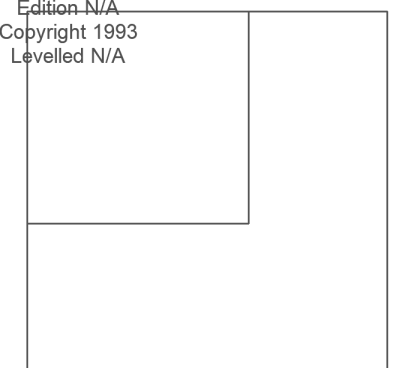
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**Grid Ref:** 447942, 111044

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:1,250

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



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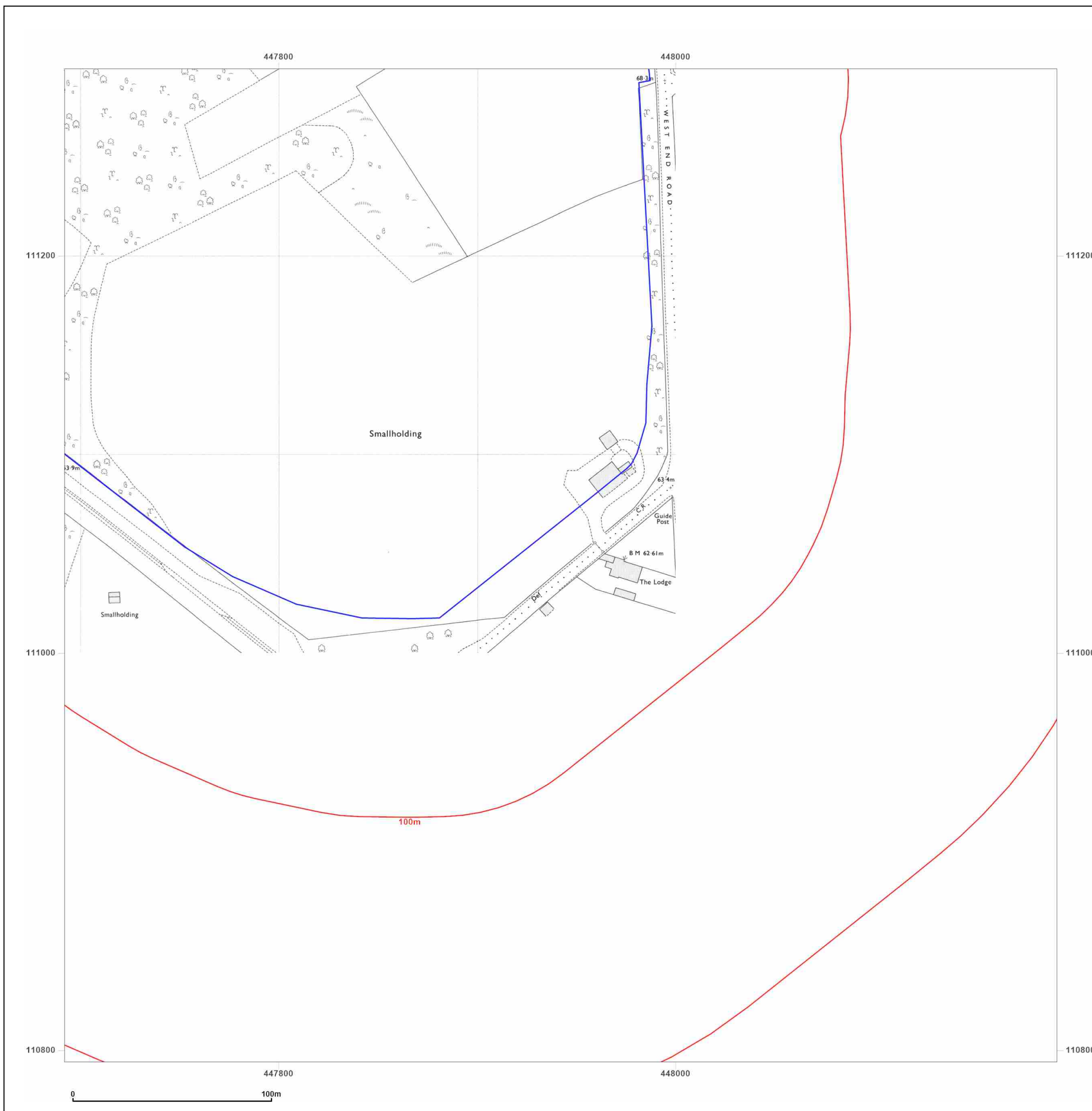


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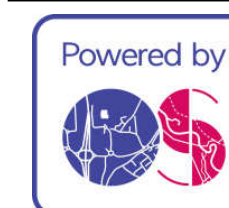
**Map date:** 1974

**Scale:** 1:1,250

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**Map Name:** National Grid

**Map date:** 1979

**Scale:** 1:1,250

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



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Edition N/A  
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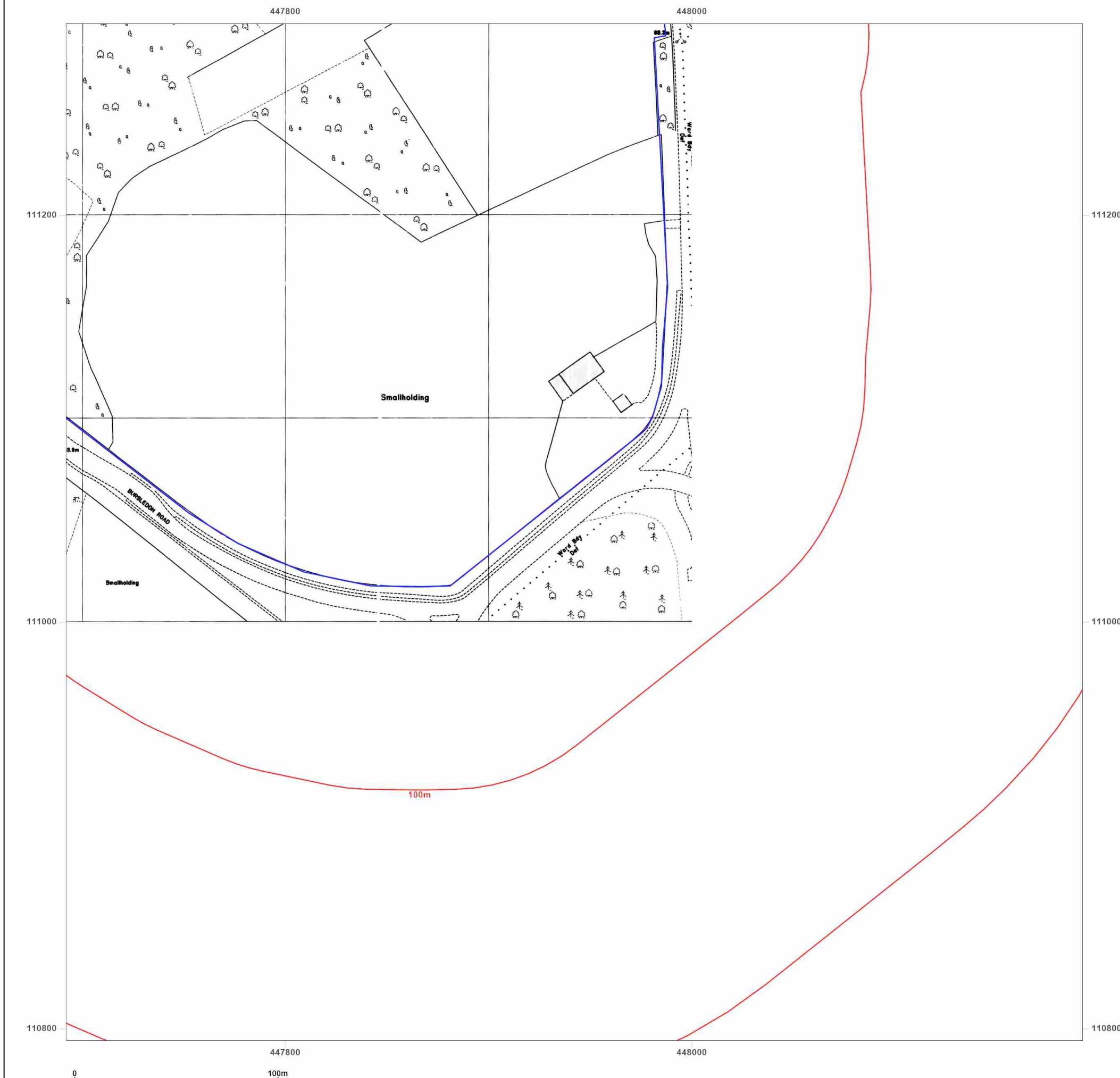


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**Map date:** 1993

**Scale:** 1:1,250

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



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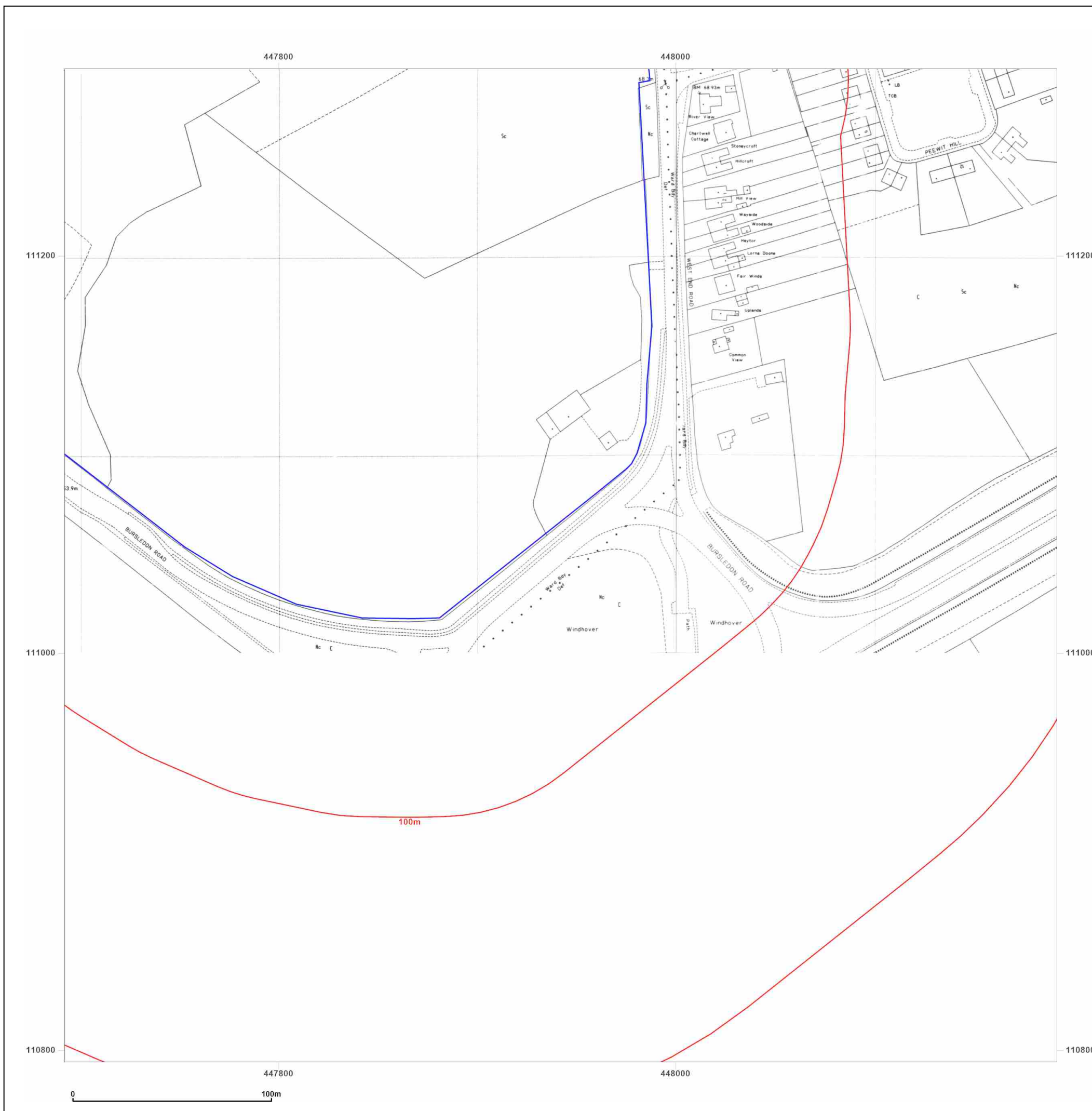


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**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:1,250

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



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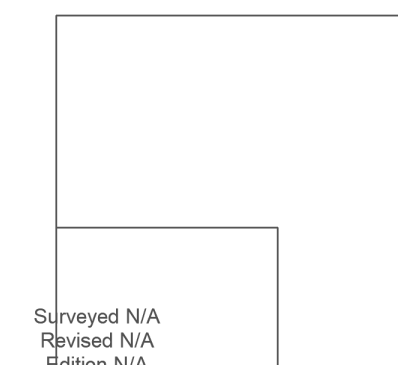
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**Map Name:** National Grid

**Map date:** 1974

**Scale:** 1:1,250

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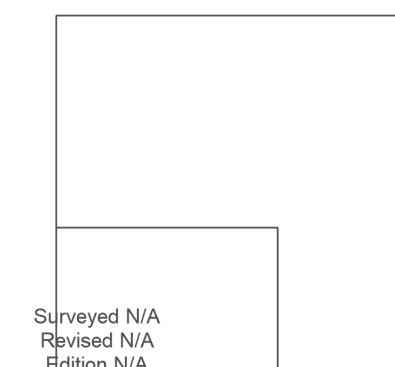
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**Map Name:** National Grid

**Map date:** 1979

**Scale:** 1:1,250

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**Map Name:** National Grid

**Map date:** 1990-1993

**Scale:** 1:1,250

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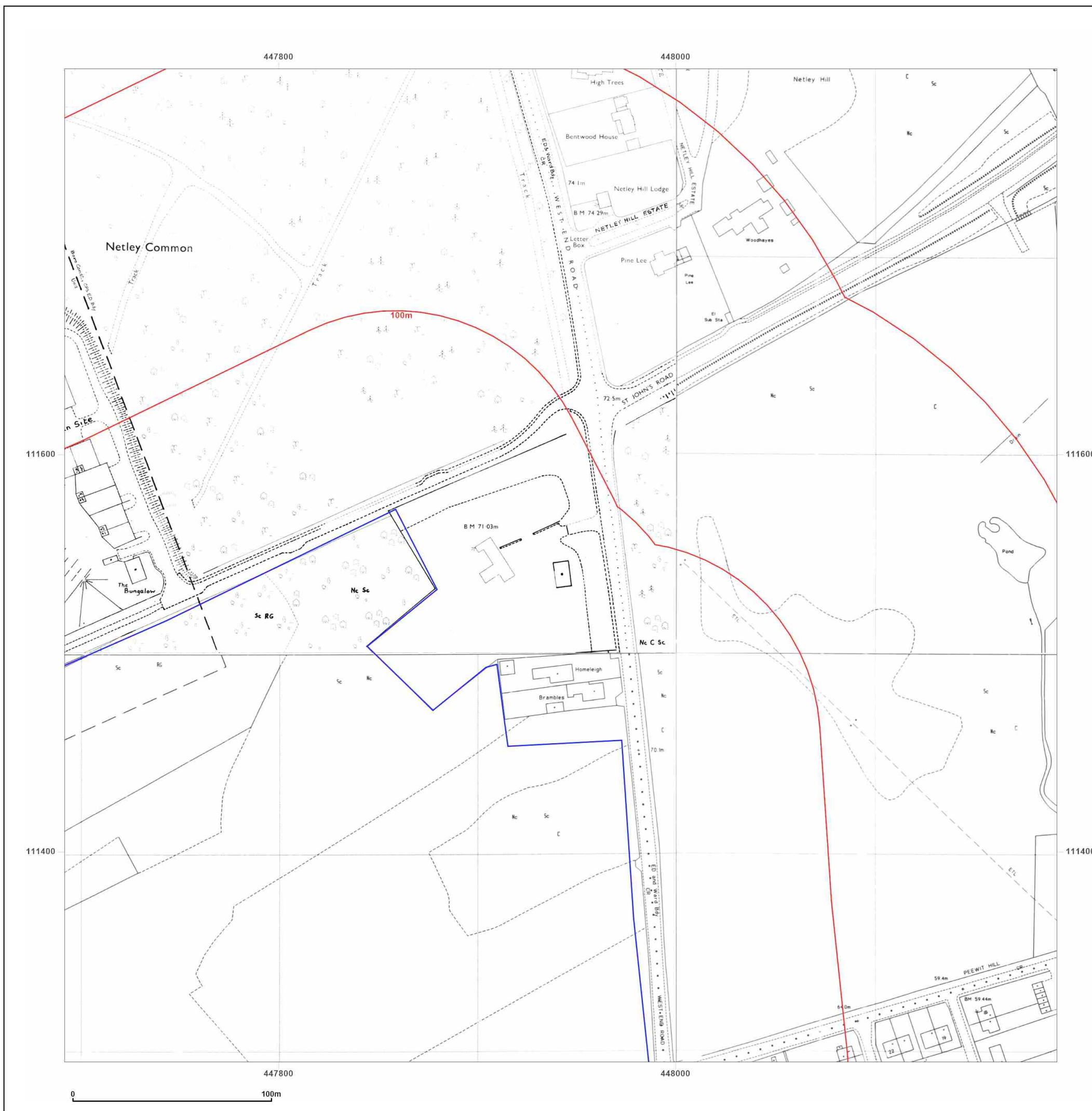


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**Grid Ref:** 447942, 111544

**Map Name:** National Grid

**Map date:** 1993

**Scale:** 1:1,250

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



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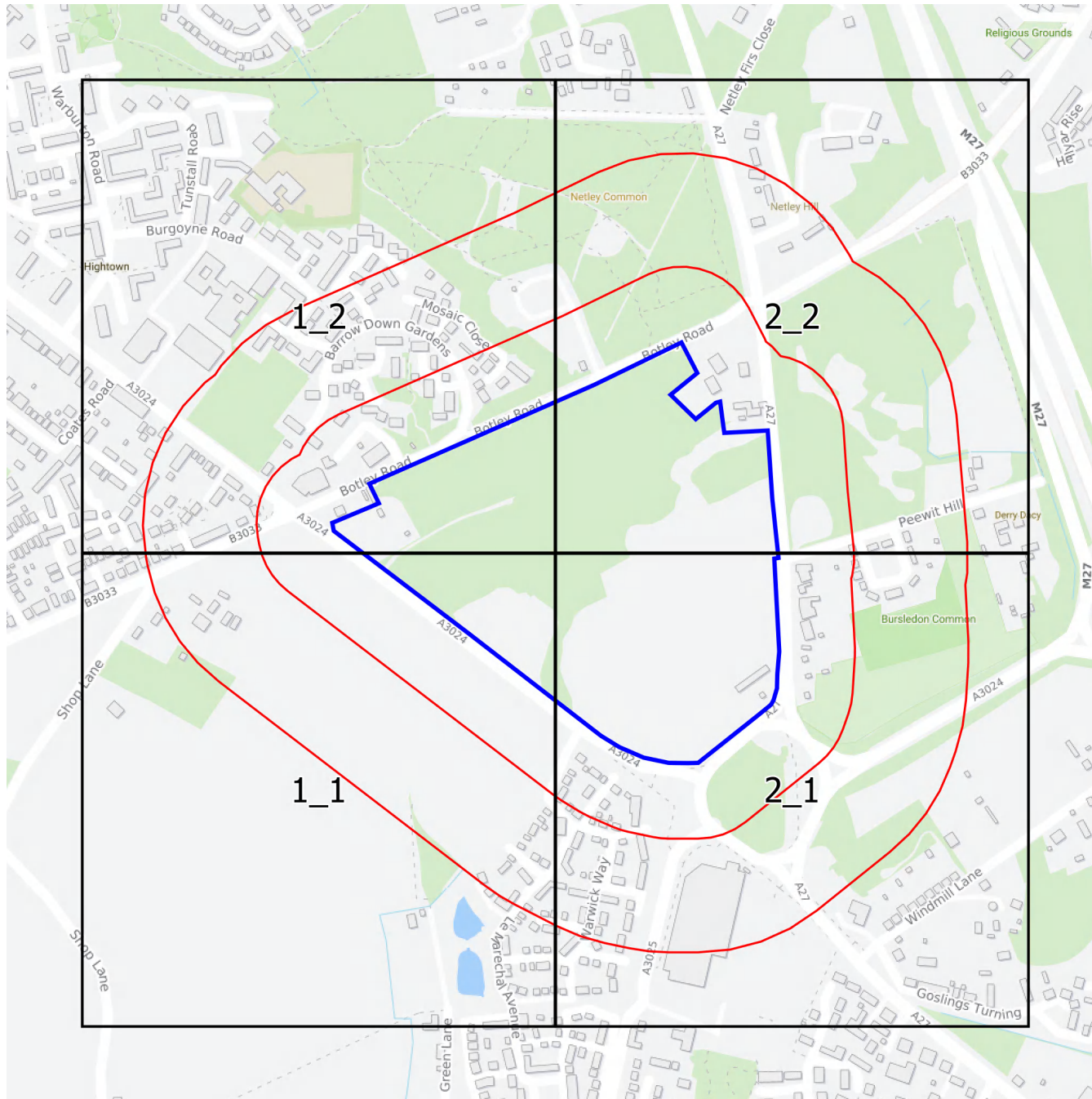
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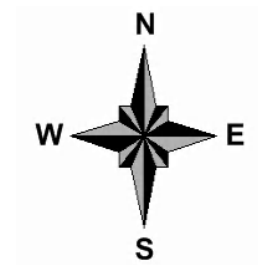






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**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_1  
**Grid Ref:** 447379, 110981

**Map Name:** County Series

**Map date:** 1867

**Scale:** 1:2,500

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



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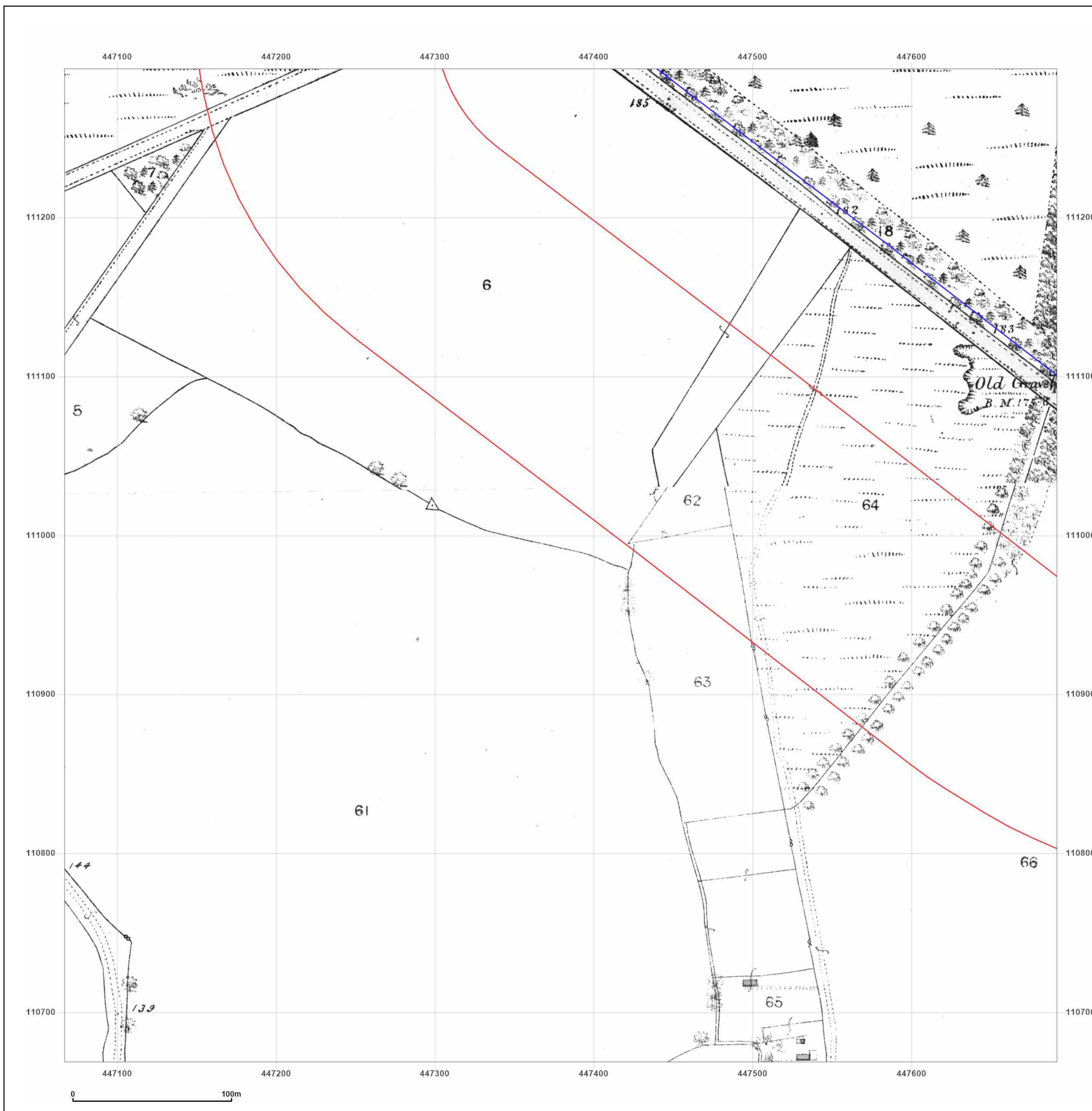


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**Map Name:** County Series

**Map date:** 1868

**Scale:** 1:2,500

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



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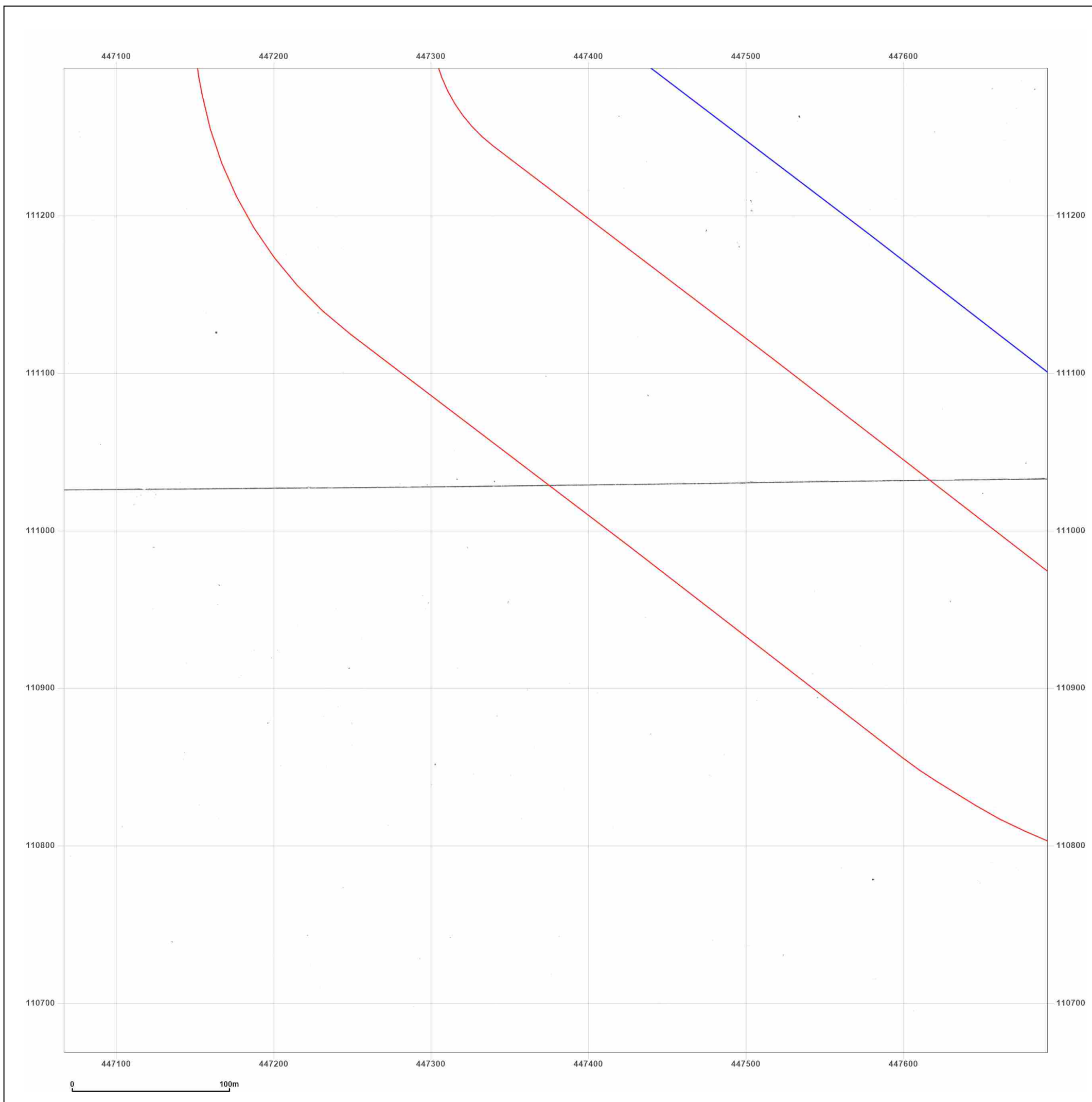


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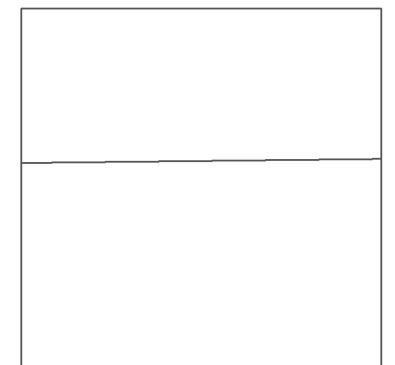
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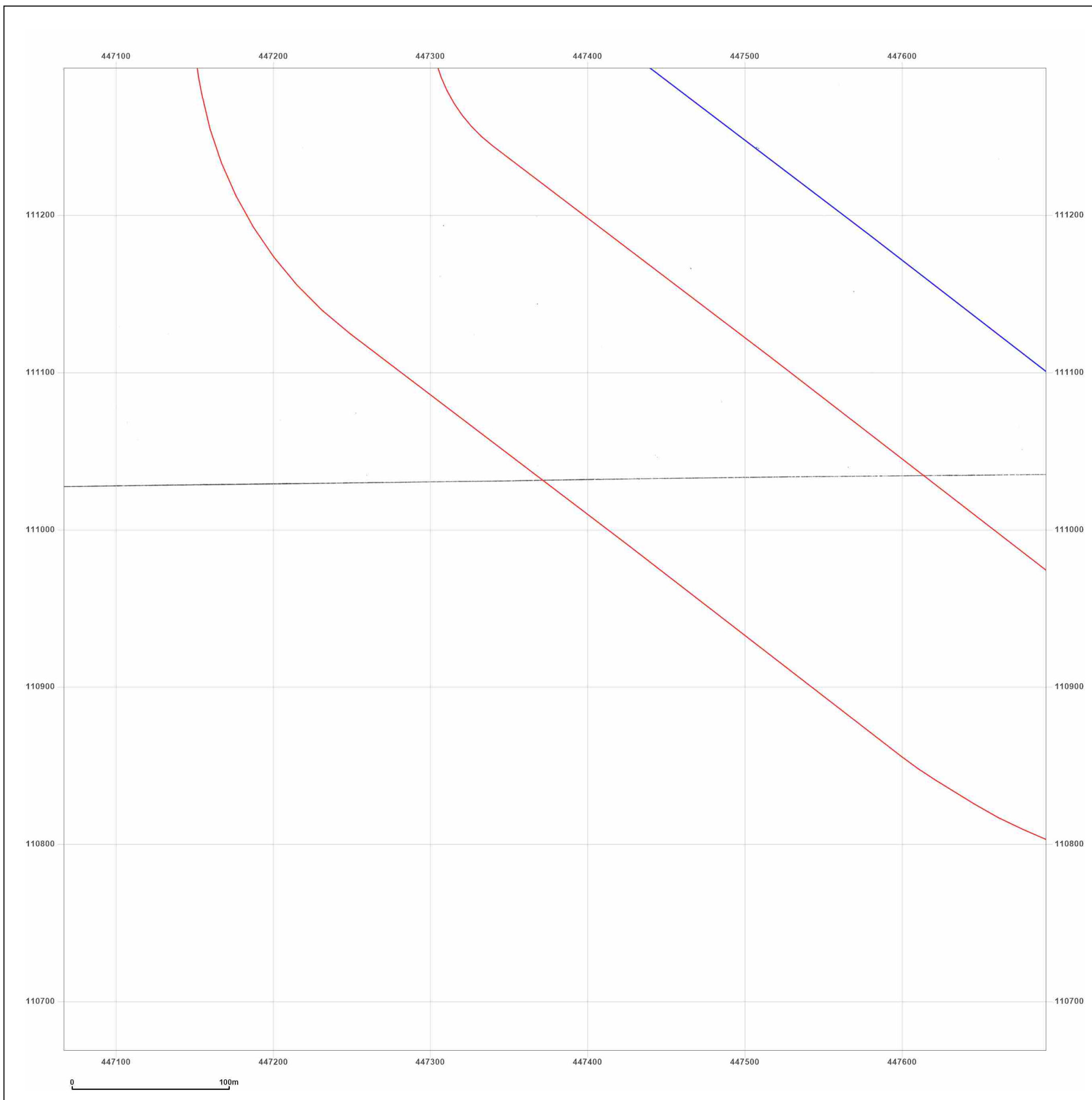


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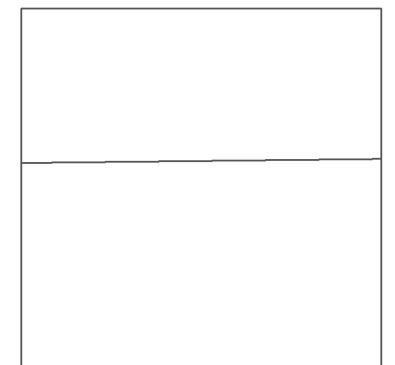
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**Printed at:** 1:2,500



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Edition N/A  
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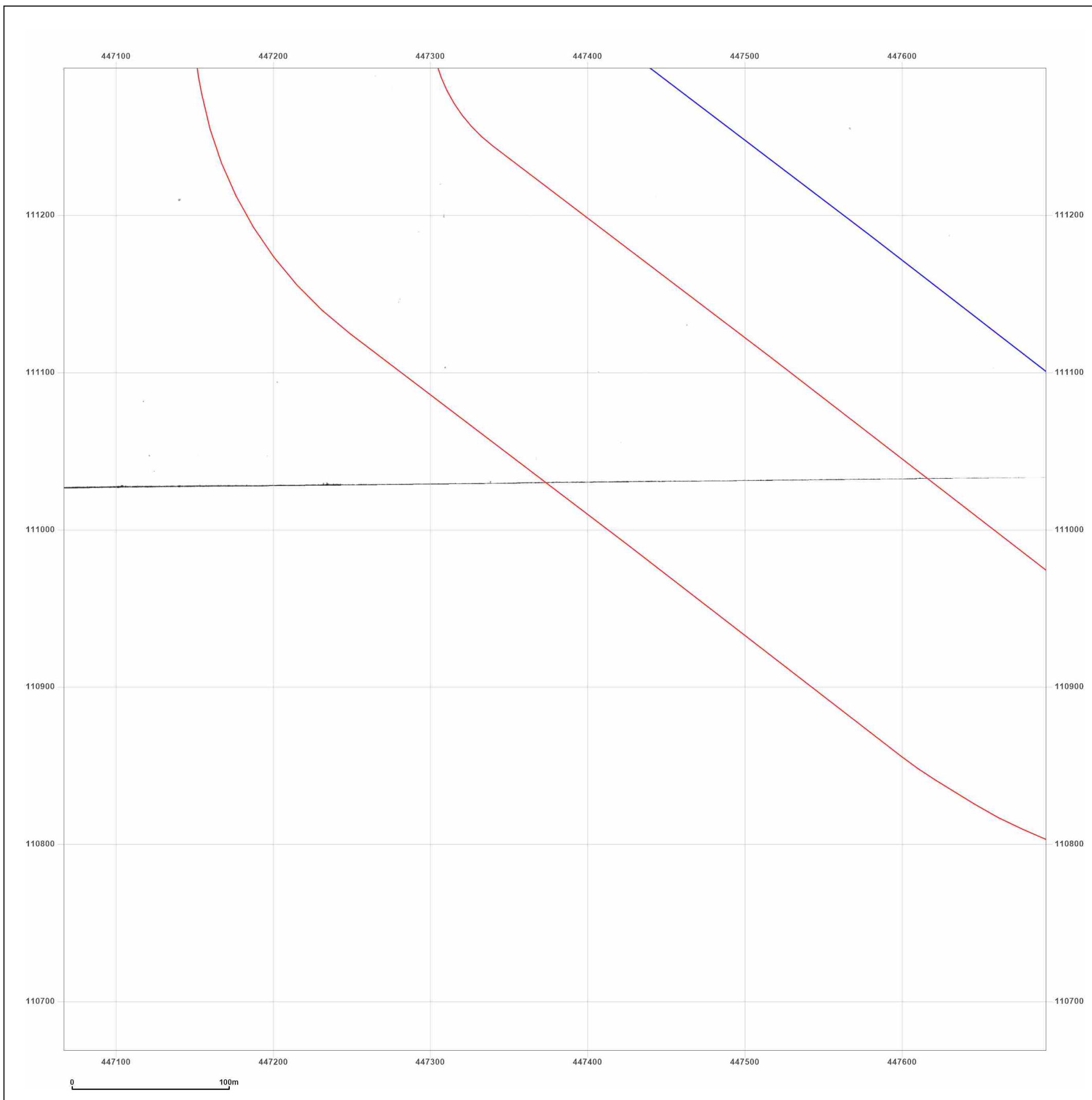


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**Map Name:** County Series

**Map date:** 1897

**Scale:** 1:2,500

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



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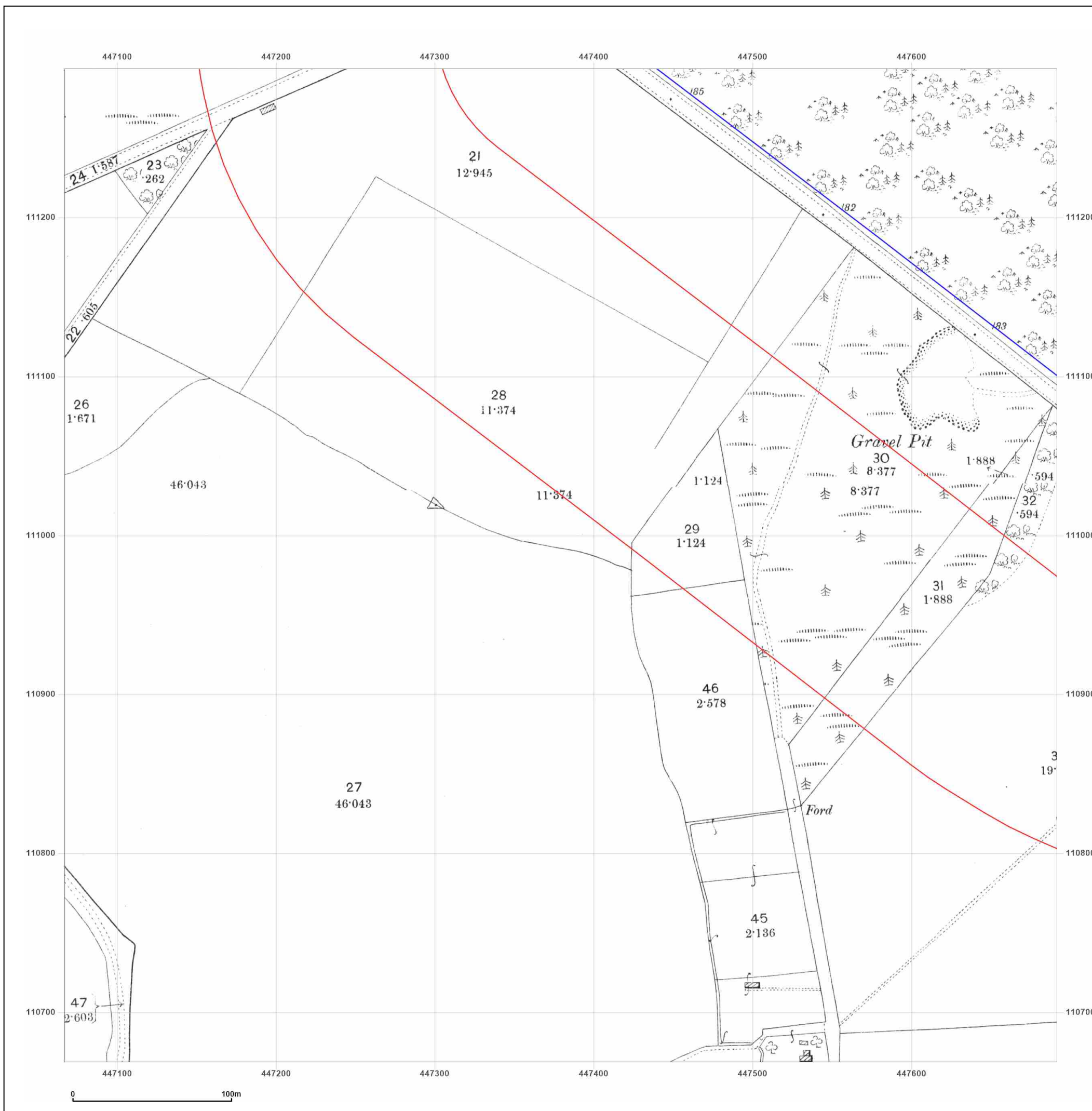


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**Map Name:** County Series

**Map date:** 1909

**Scale:** 1:2,500

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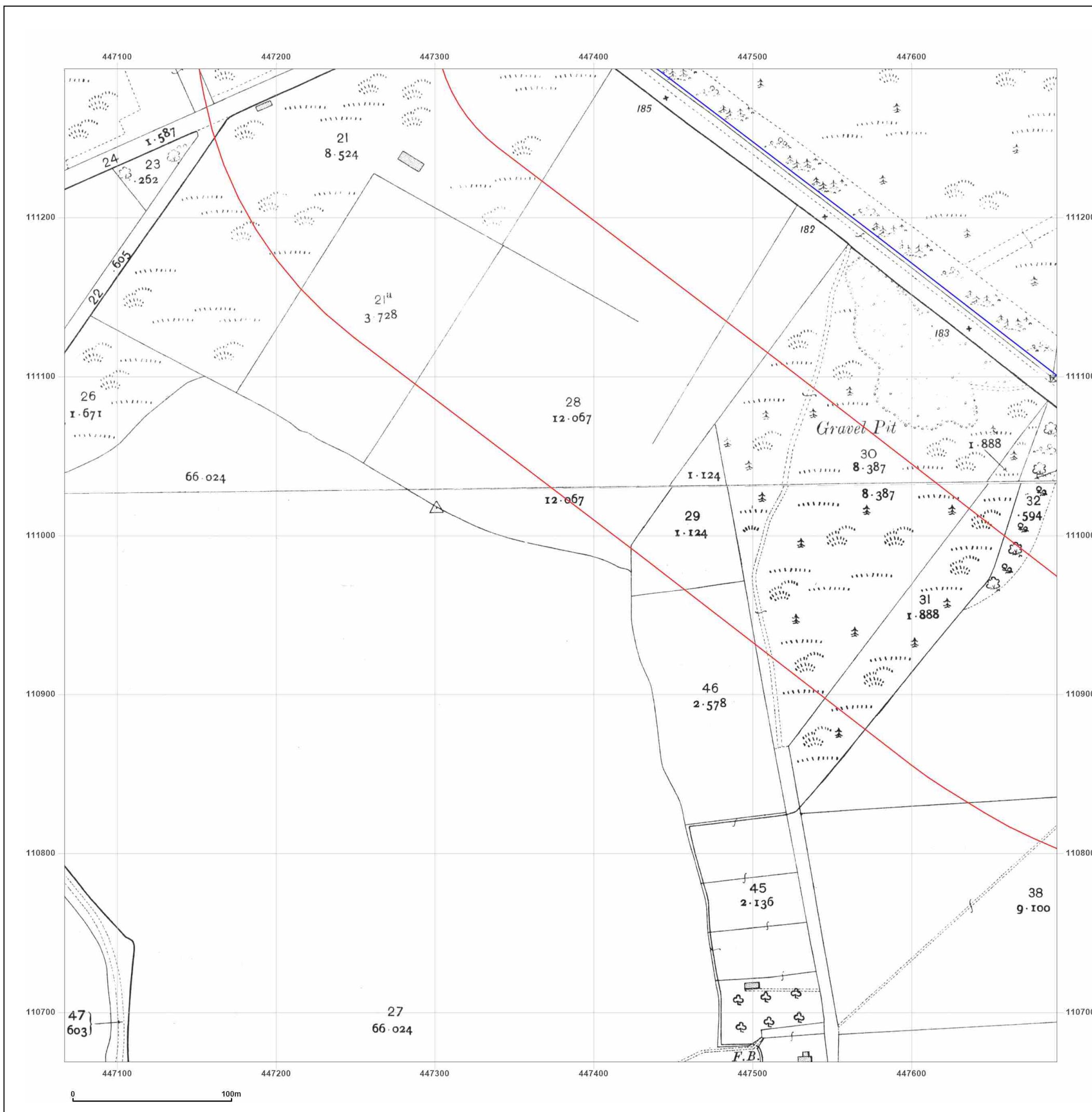


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**Grid Ref:** 447379, 110981

**Map Name:** National Grid

**Map date:** 1964-1965

**Scale:** 1:2,500

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



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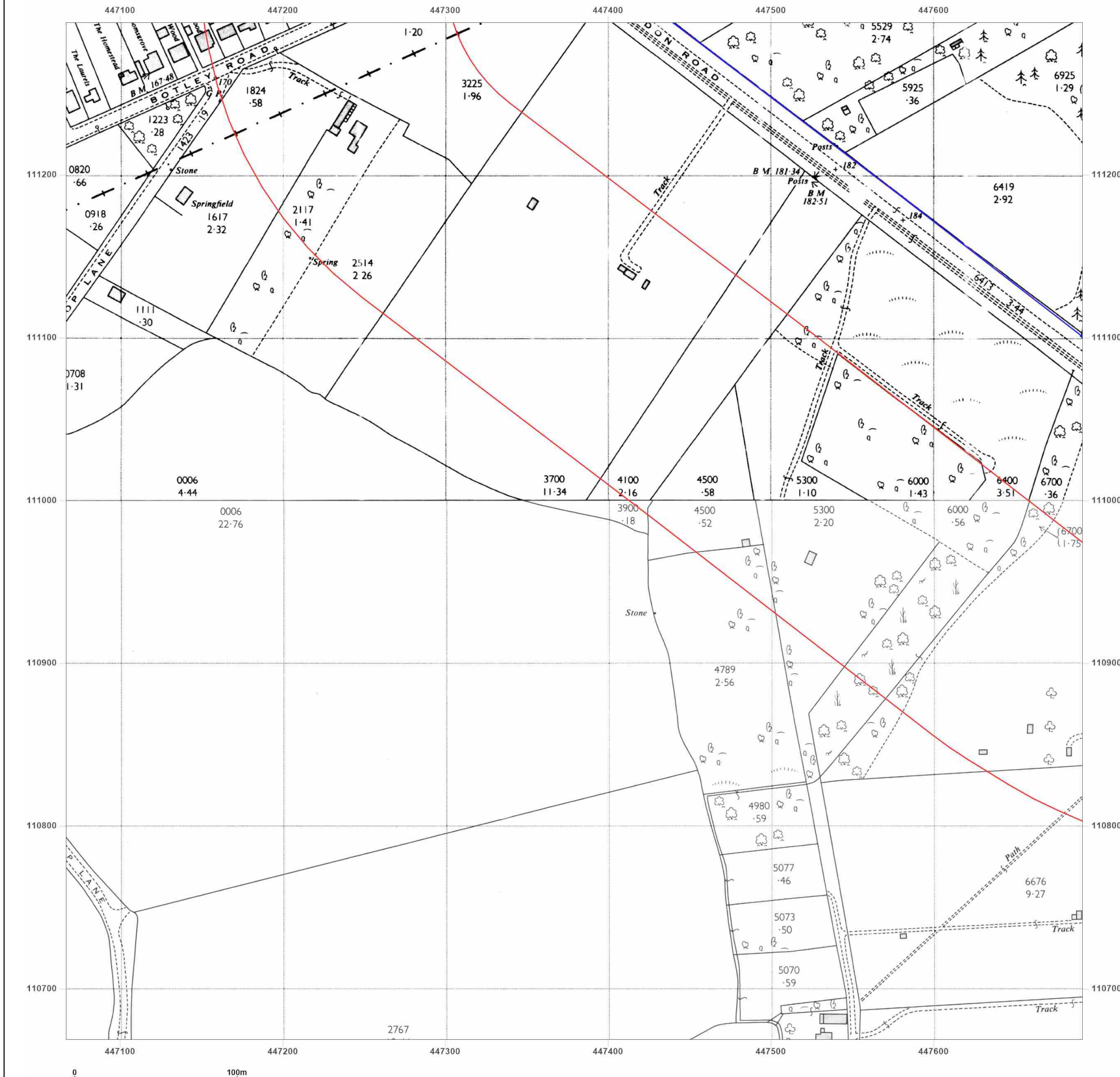


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#### Site Details:

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_1  
**Grid Ref:** 447379, 110981

**Map Name:** National Grid

**Map date:** 1965

**Scale:** 1:2,500

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



Surveyed 1965  
Revised 1965  
Edition N/A  
Copyright 1965  
Levelled N/A

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

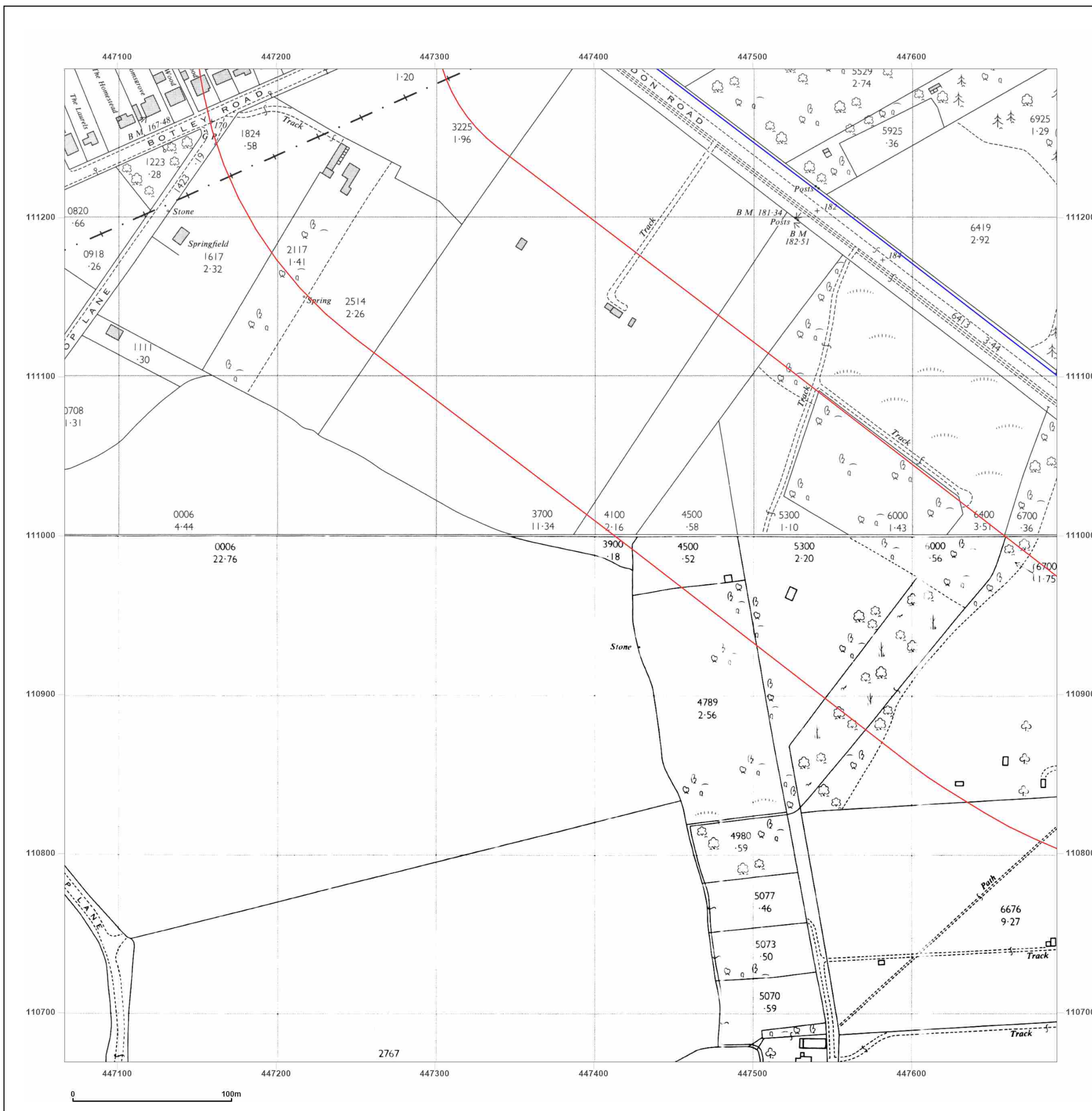


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#### Site Details:

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_1  
**Grid Ref:** 447379, 110981

**Map Name:** National Grid

**Map date:** 1970-1975

**Scale:** 1:2,500

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



Surveyed 1969  
Revised 1970  
Edition N/A  
Copyright 1972  
Levelled 1959

Surveyed 1950  
Revised 1975  
Edition N/A  
Copyright 1977  
Levelled 1959

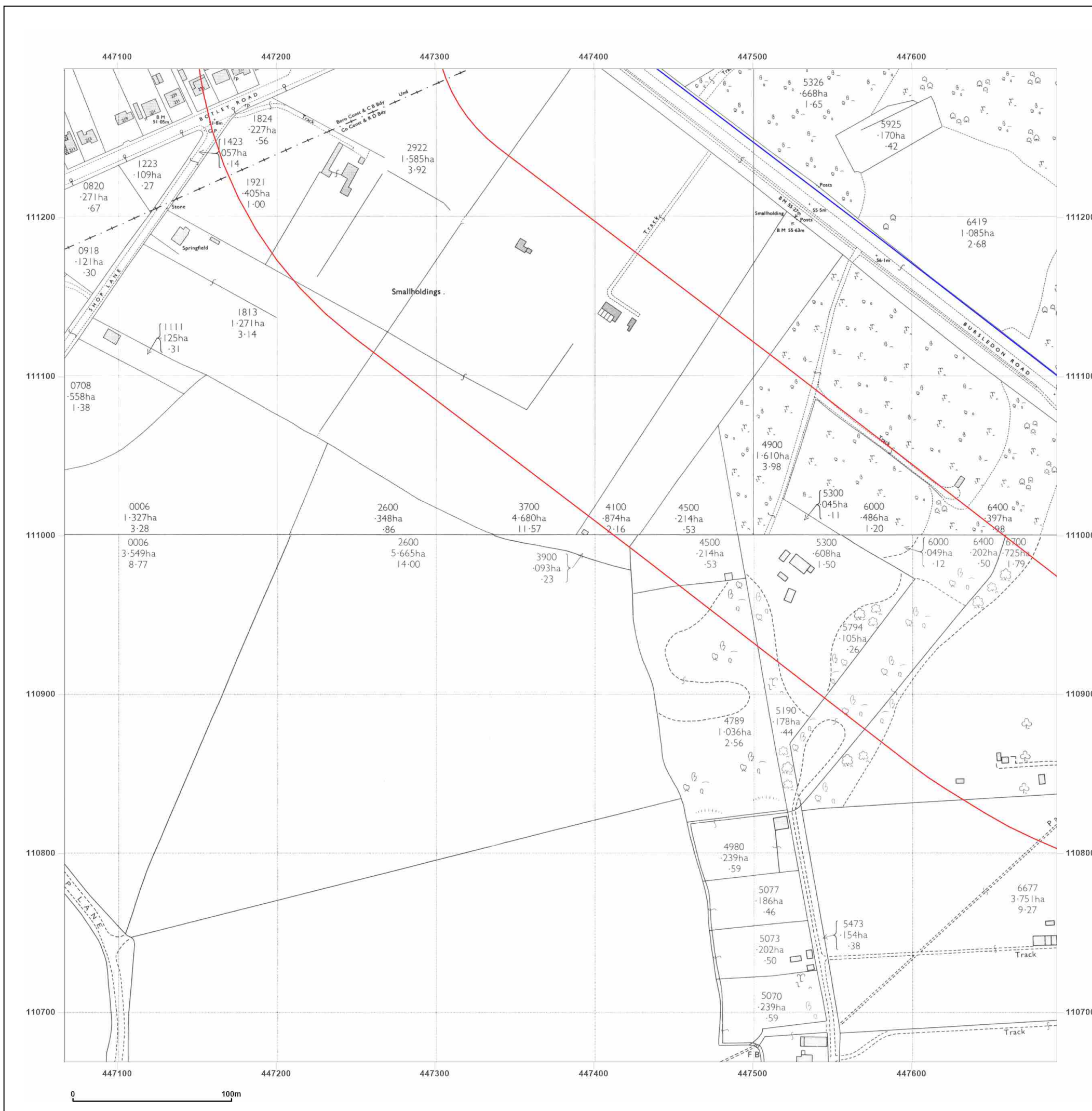


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#### Site Details:

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SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_1  
**Grid Ref:** 447379, 110981

**Map Name:** National Grid

**Map date:** 1972-1977

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

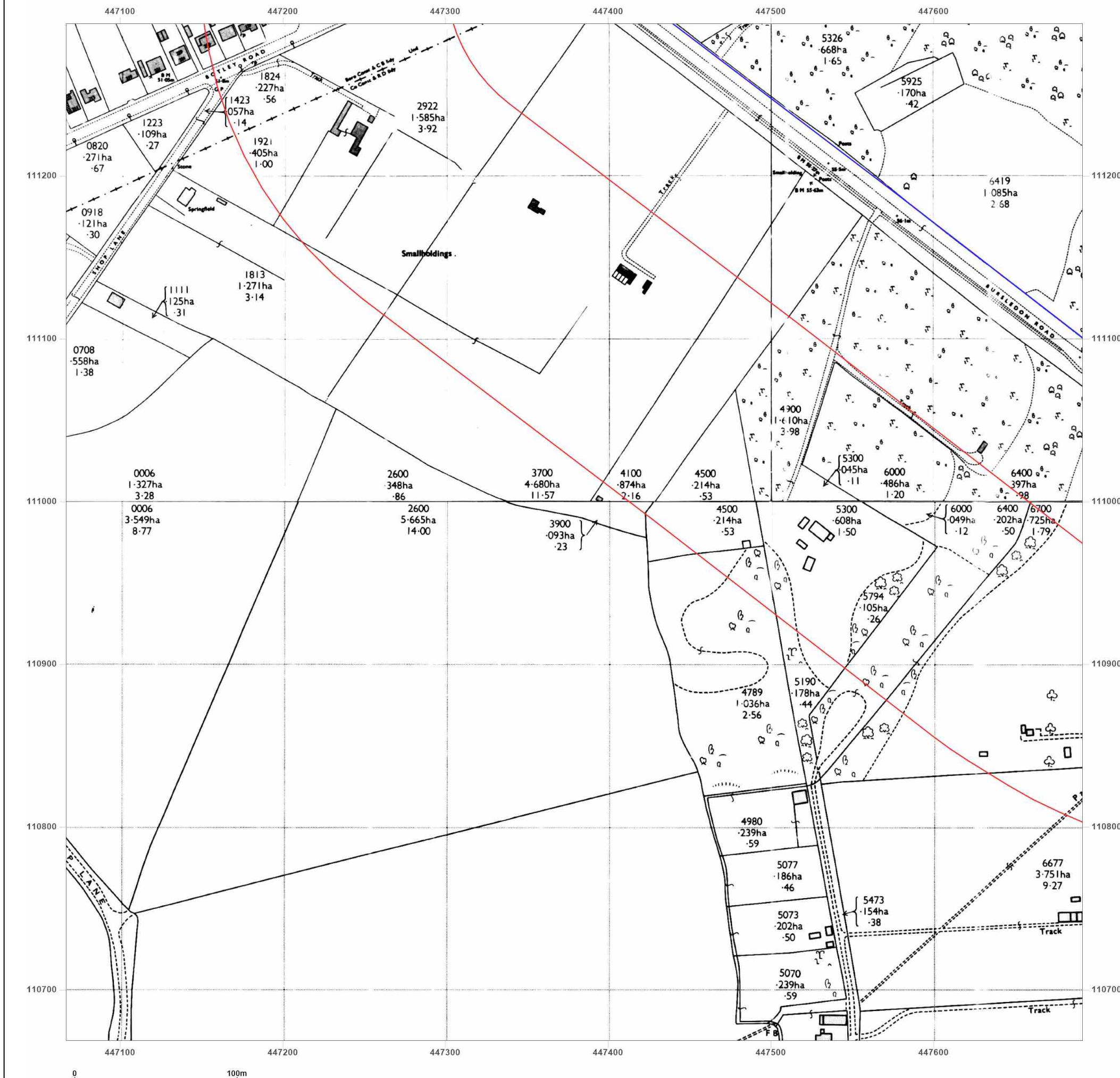


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#### Site Details:

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SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_1  
**Grid Ref:** 447379, 110981

**Map Name:** National Grid

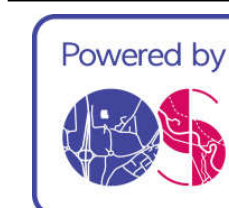
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Surveyed 1950  
Revised 1985  
Edition N/A  
Copyright 1987  
Levelled 1959

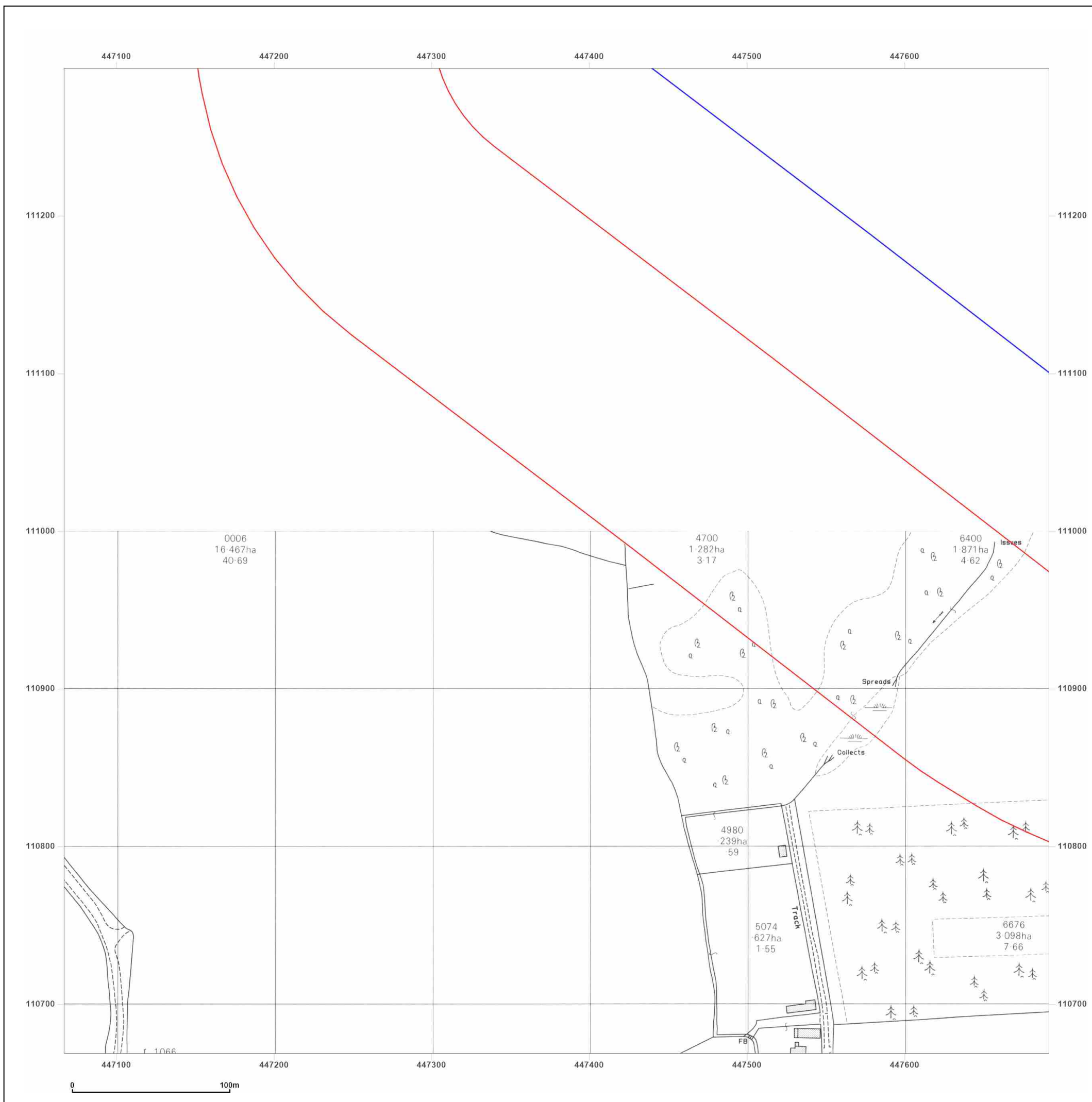


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SO31 8BN

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**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_1  
**Grid Ref:** 447379, 110981

**Map Name:** National Grid

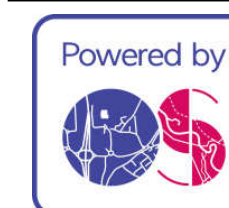
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**Scale:** 1:2,500

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



Surveyed 1959  
Revised 1988  
Edition N/A  
Copyright 1988  
Levelled 1959

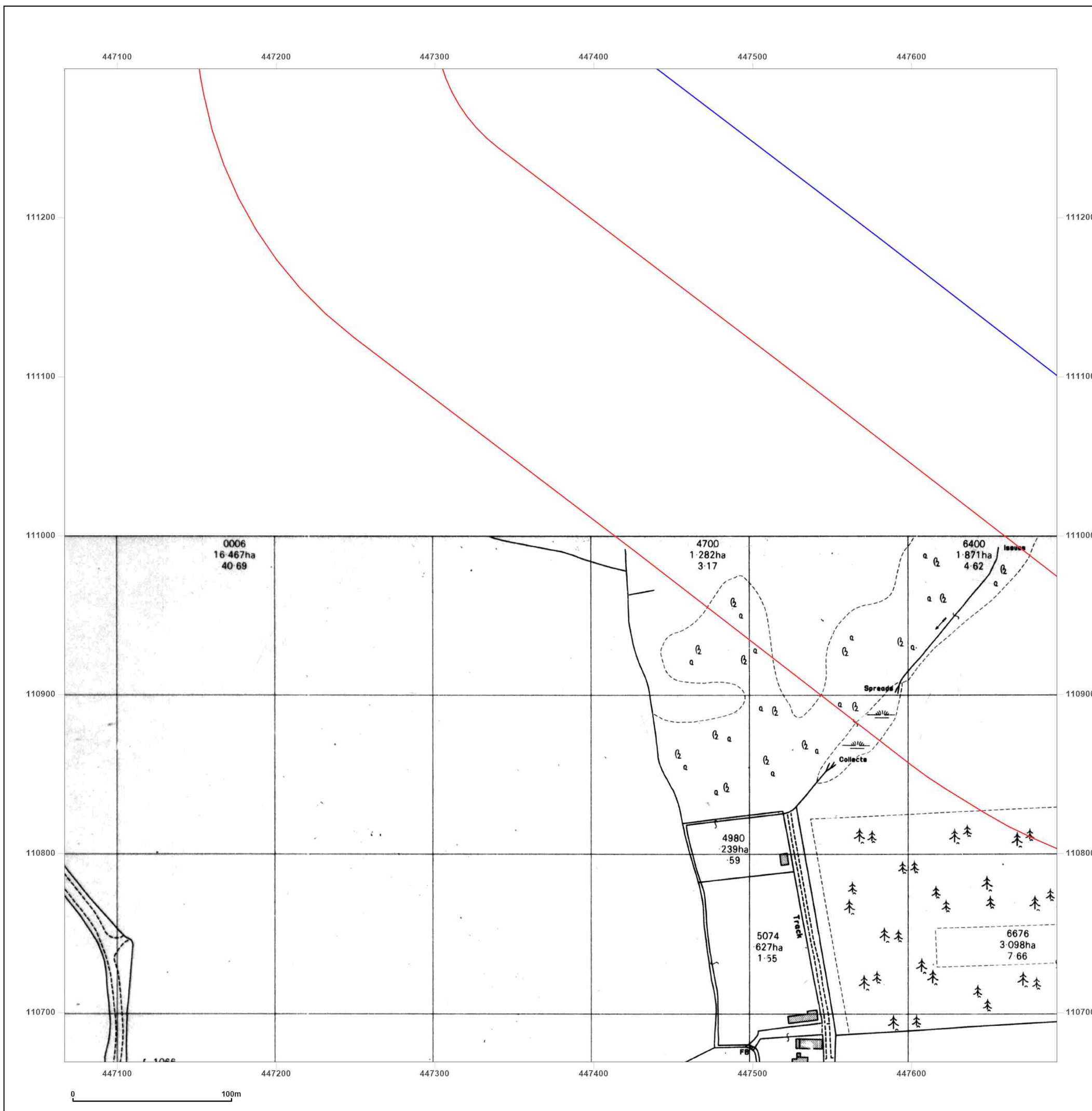


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#### Site Details:

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SO31 8BN

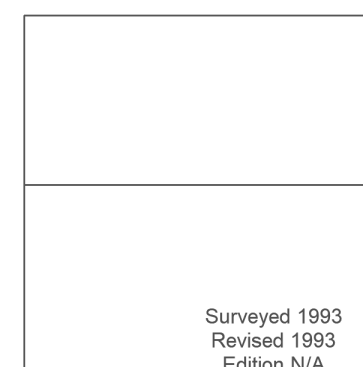
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**Map Name:** National Grid

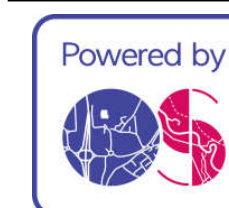
**Map date:** 1993

**Scale:** 1:2,500

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



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

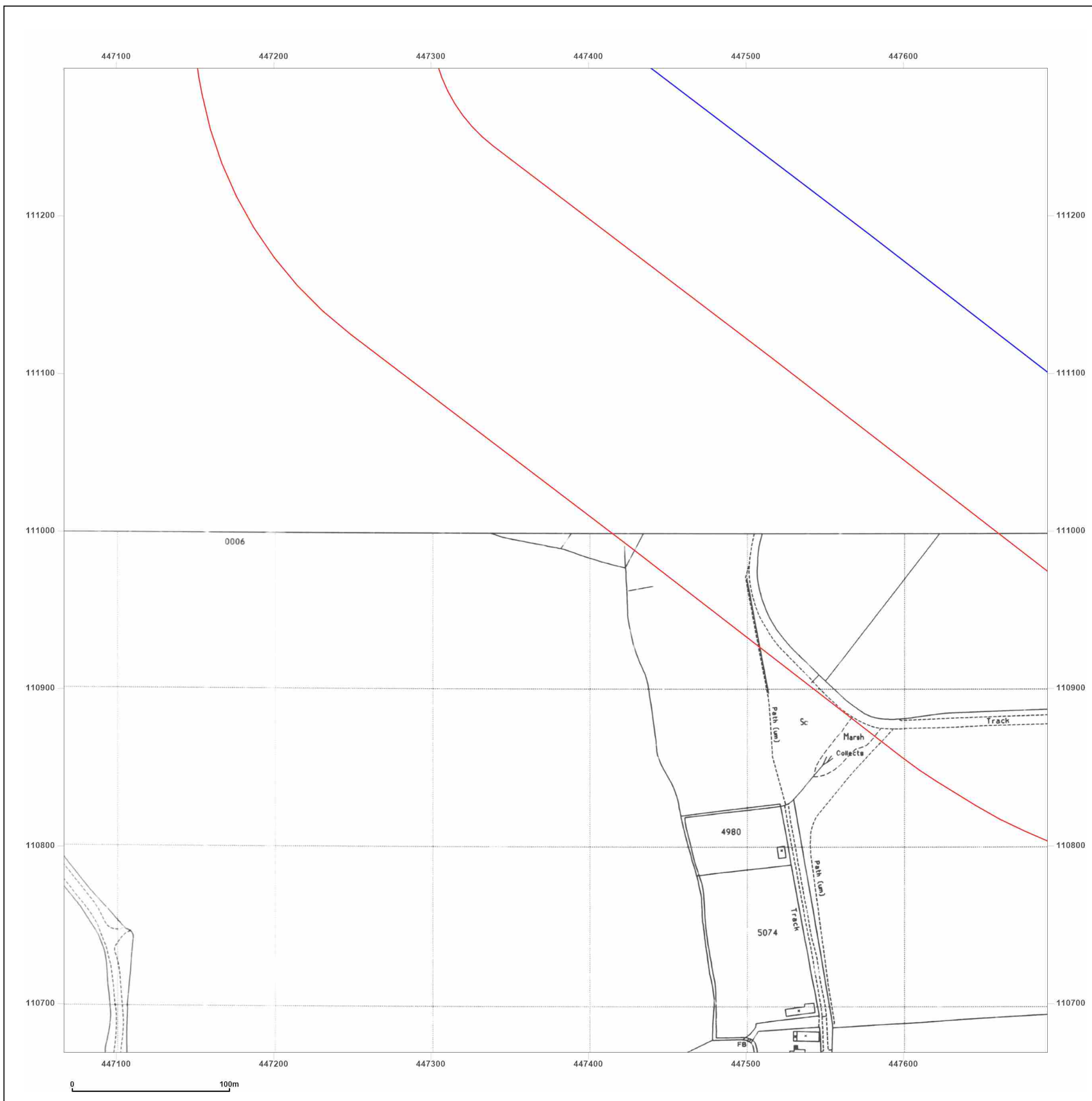


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#### Site Details:

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_2  
**Grid Ref:** 447379, 111606

**Map Name:** County Series

**Map date:** 1867

**Scale:** 1:2,500

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



Surveyed 1867  
Revised 1867  
Edition N/A  
Copyright N/A  
Levelled N/A

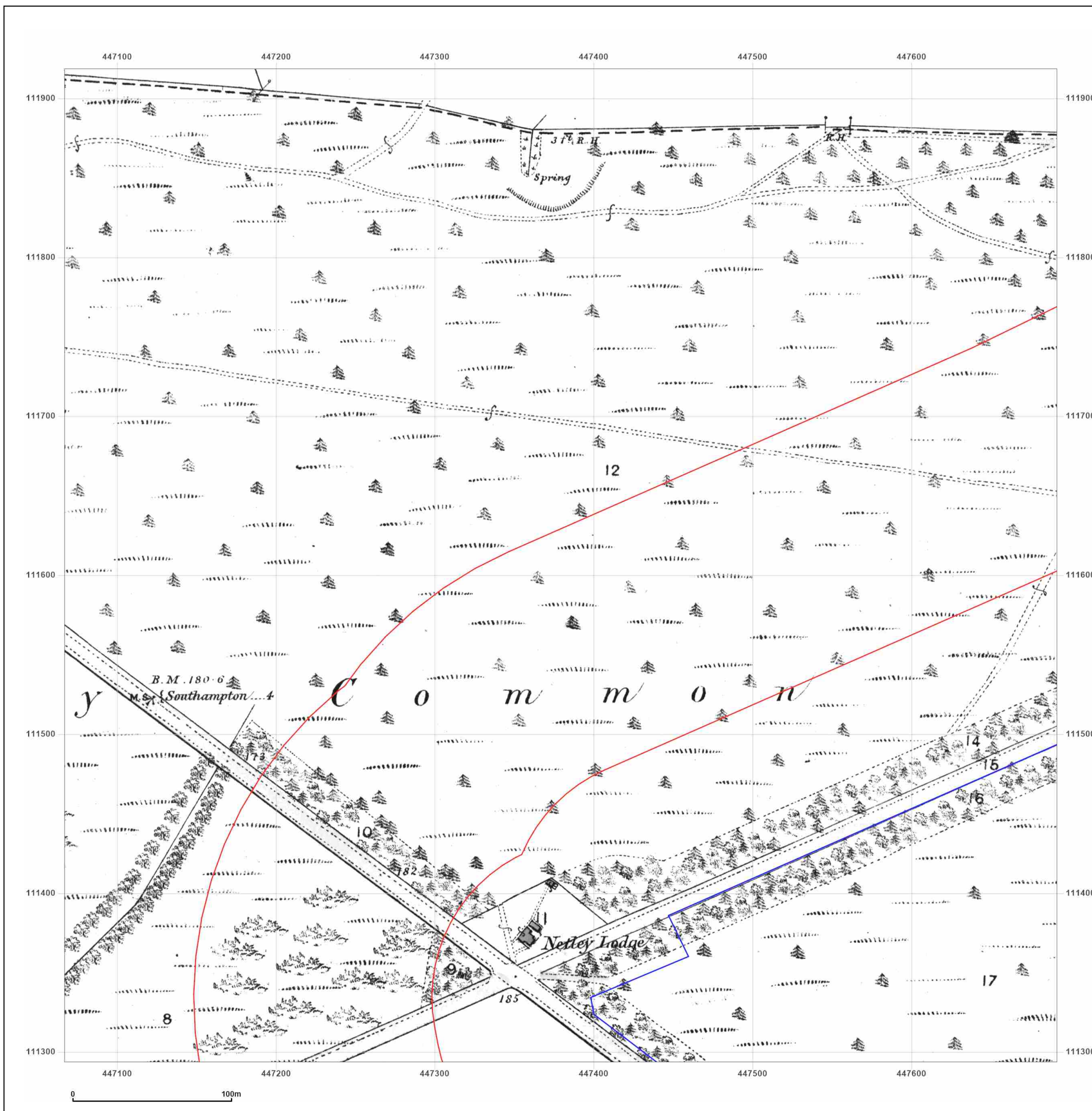


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**Site Details:**

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_2  
**Grid Ref:** 447379, 111606

**Map Name:** County Series

**Map date:** 1868

**Scale:** 1:2,500

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



Surveyed 1868  
Revised 1868  
Edition N/A  
Copyright N/A  
Levelled N/A

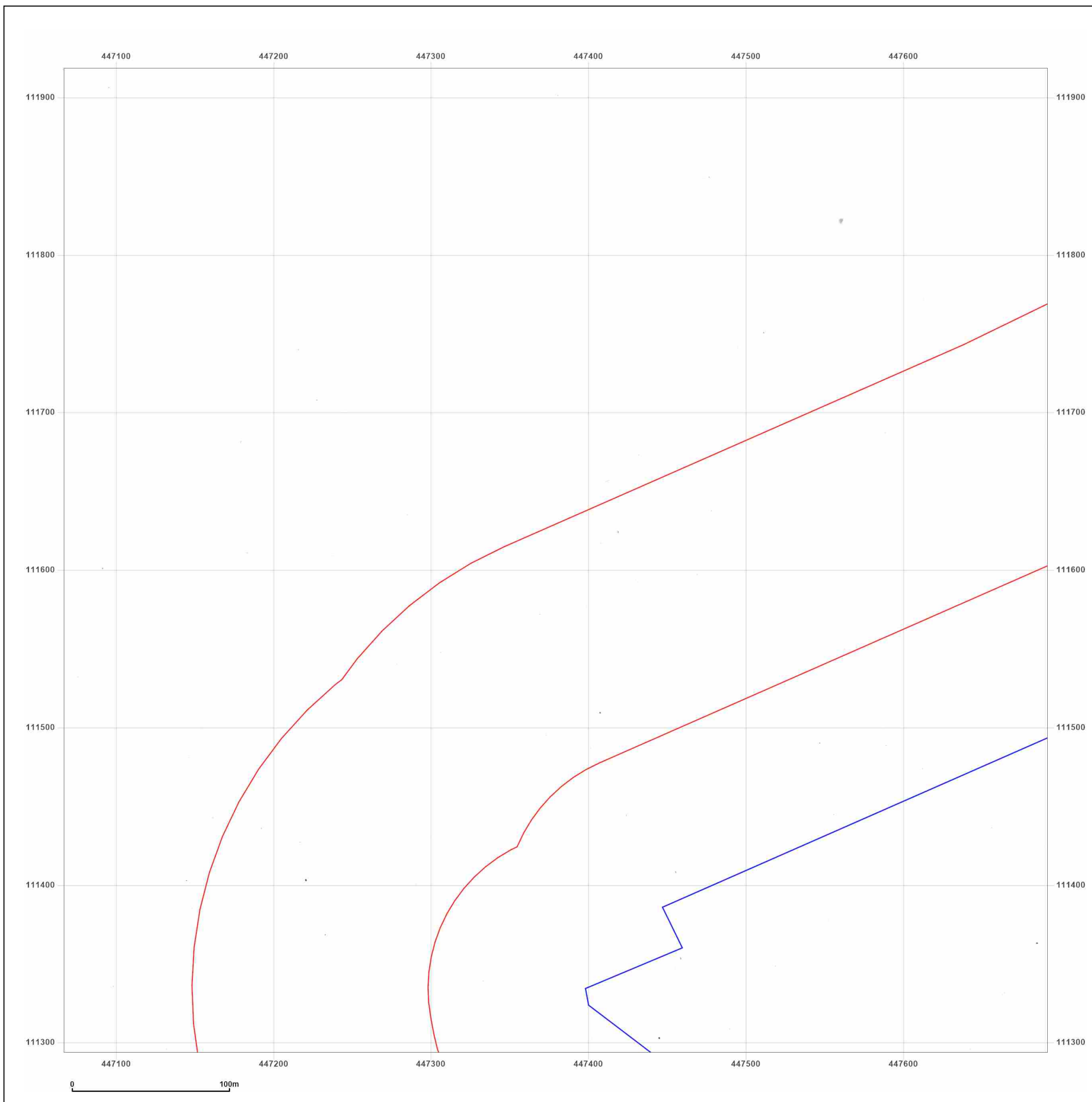


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#### Site Details:

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**Client Ref:** 7025  
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**Map Name:** County Series

**Map date:** 1868

**Scale:** 1:2,500

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



Surveyed 1868  
Revised 1868  
Edition N/A  
Copyright N/A  
Levelled N/A

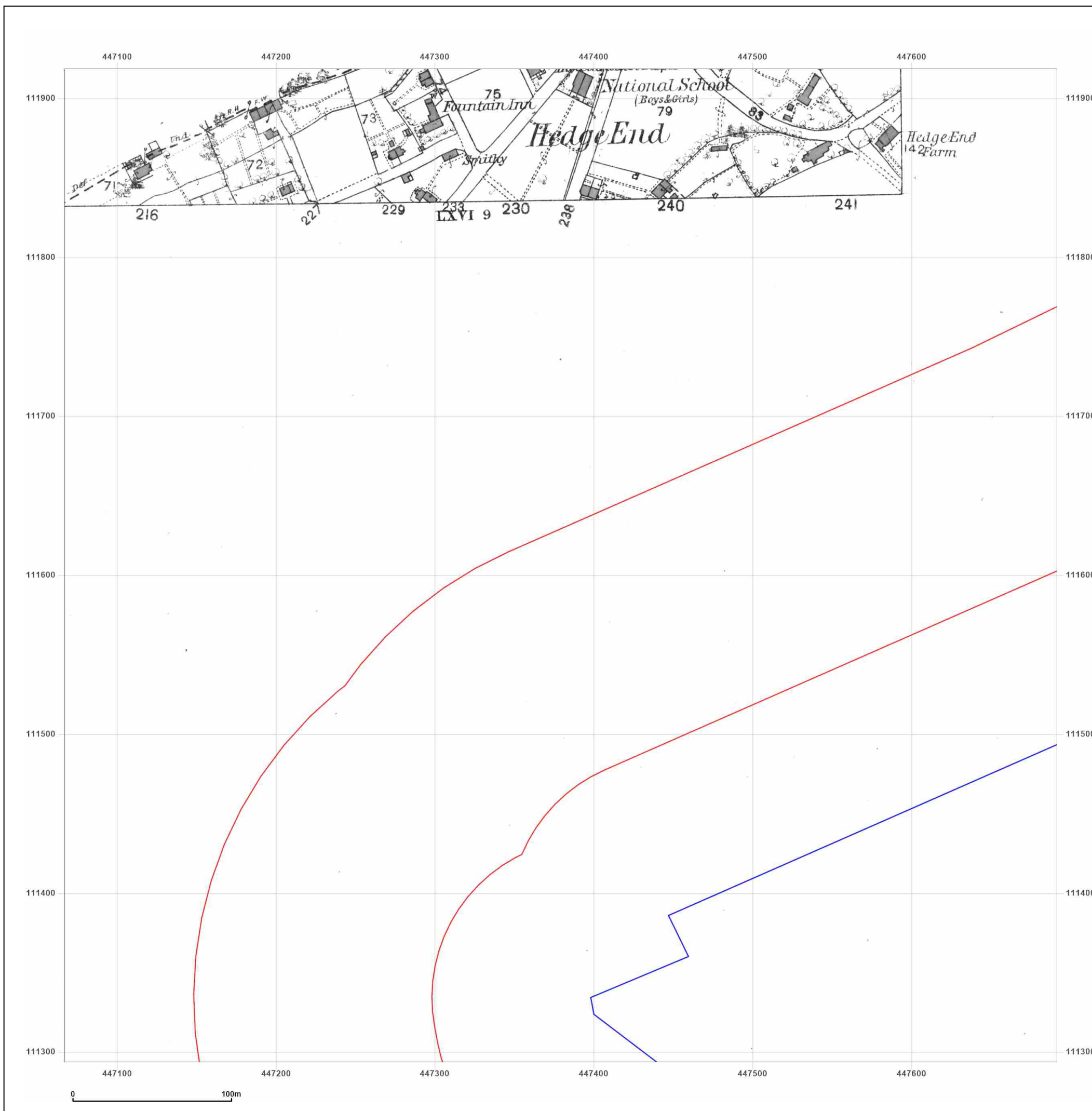


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#### Site Details:

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SO31 8BN

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**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_2  
**Grid Ref:** 447379, 111606

**Map Name:** County Series

**Map date:** 1869

**Scale:** 1:2,500

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



Surveyed 1869  
Revised 1869  
Edition N/A  
Copyright N/A  
Levelled N/A

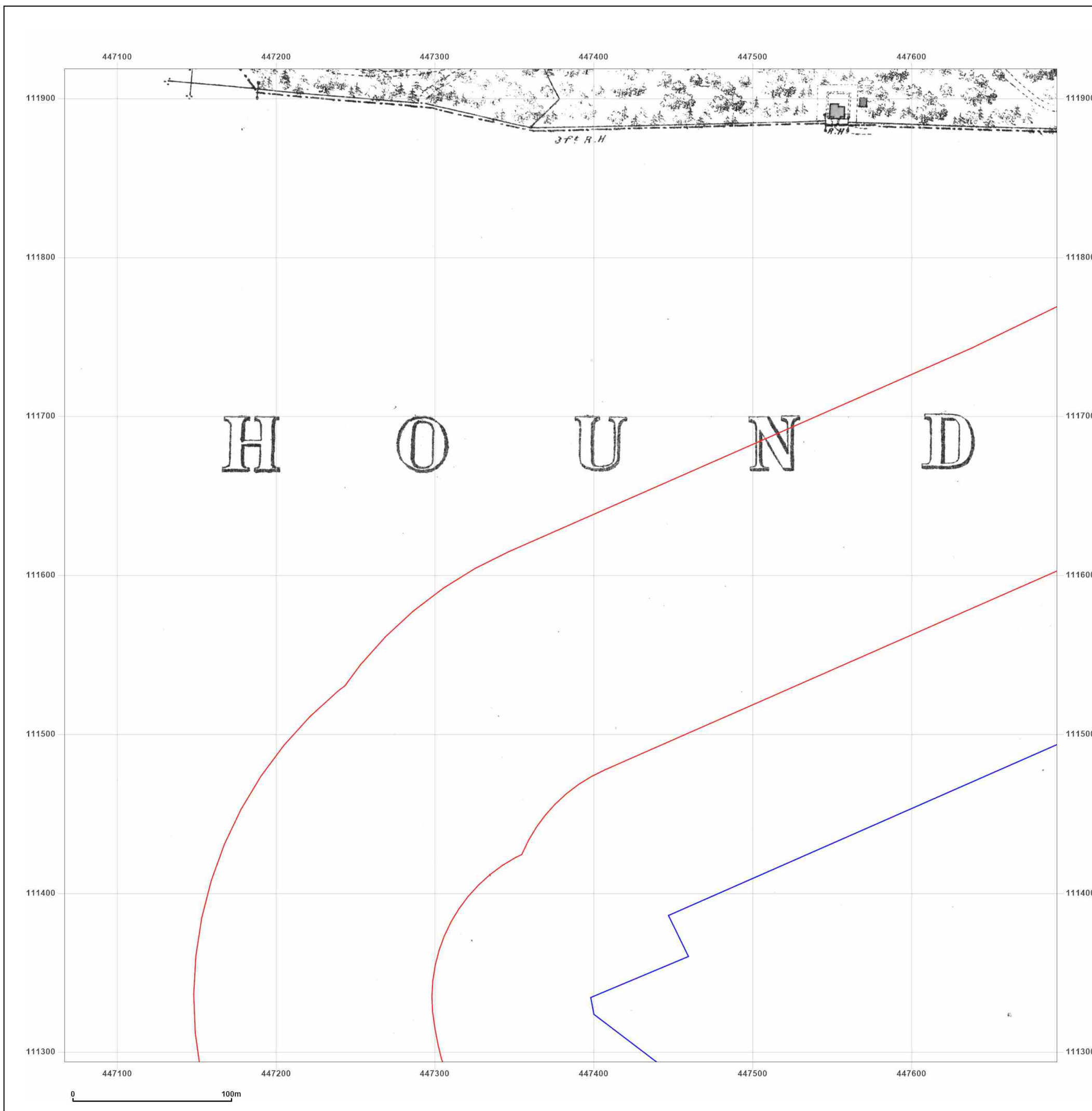


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**Client Ref:** 7025  
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**Grid Ref:** 447379, 111606

**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

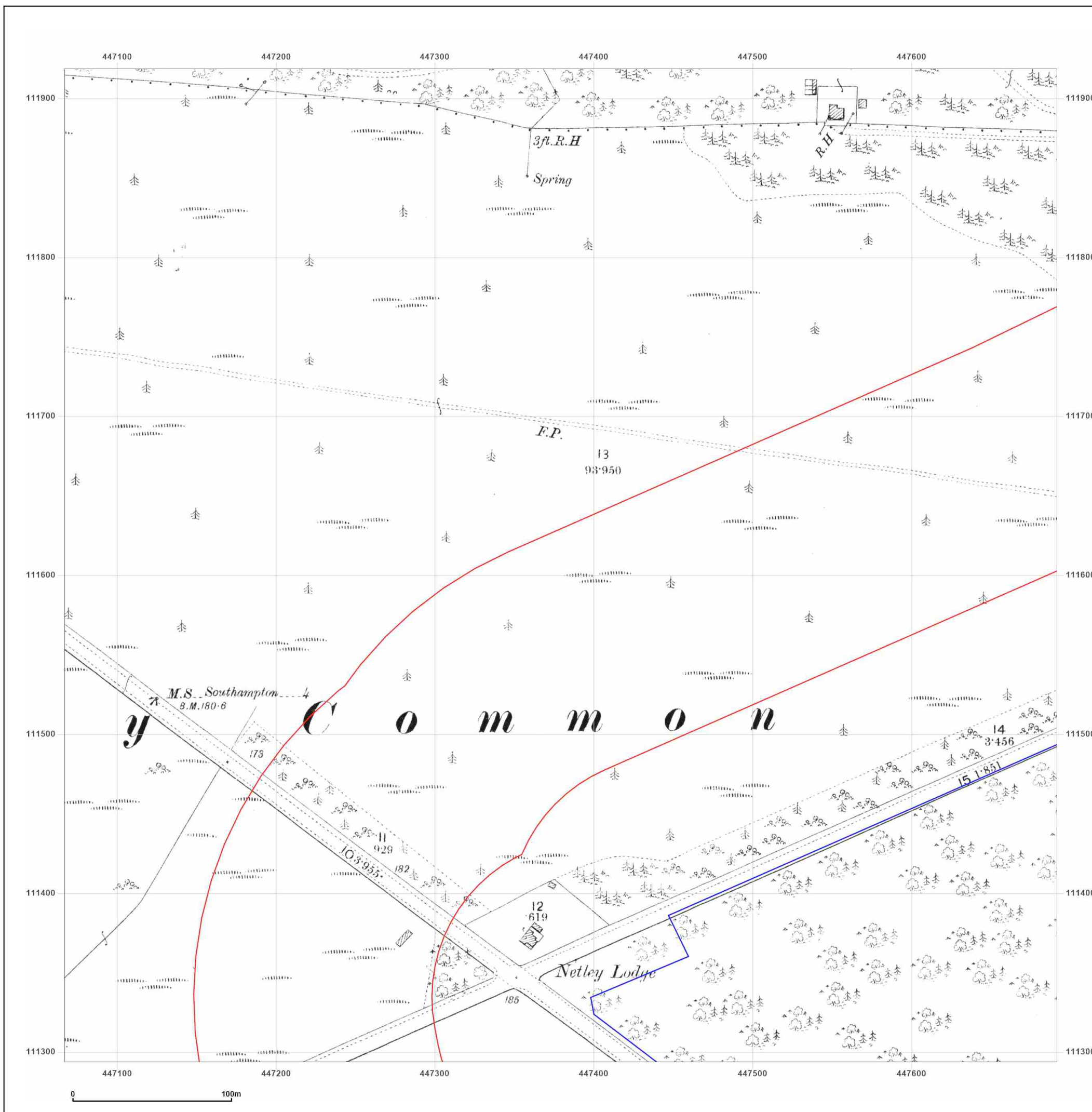


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#### Site Details:

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SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_1\_2  
**Grid Ref:** 447379, 111606

**Map Name:** County Series

**Map date:** 1909

**Scale:** 1:2,500

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



Surveyed 1909  
Revised 1909  
Edition N/A  
Copyright N/A  
Levelled N/A

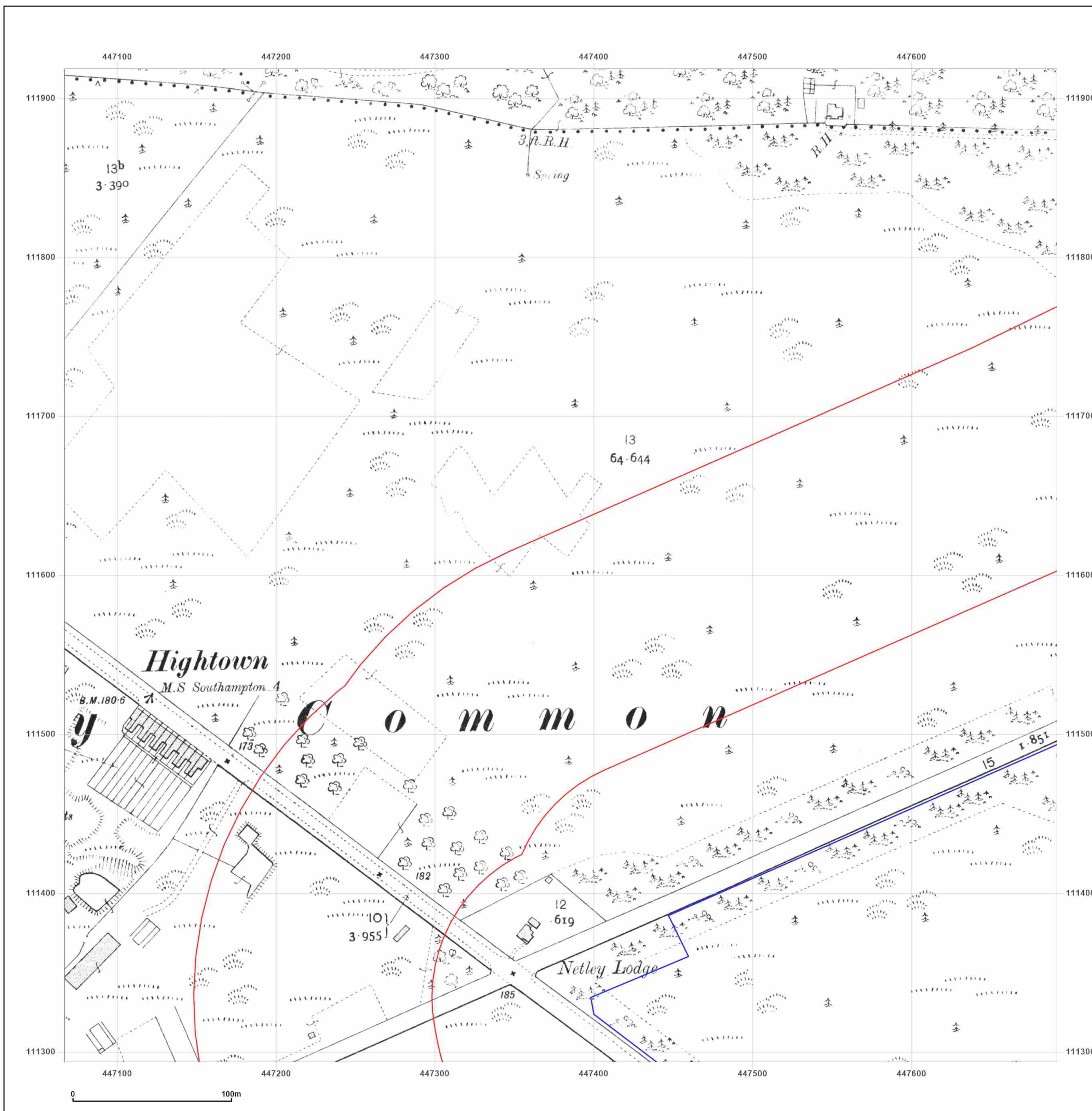


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SO31 8BN

**Client Ref:** 7025  
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**Grid Ref:** 447379, 111606

**Map Name:** National Grid

**Map date:** 1965

**Scale:** 1:2,500

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



Surveyed 1965  
Revised 1965  
Edition N/A  
Copyright 1965  
Levelled N/A

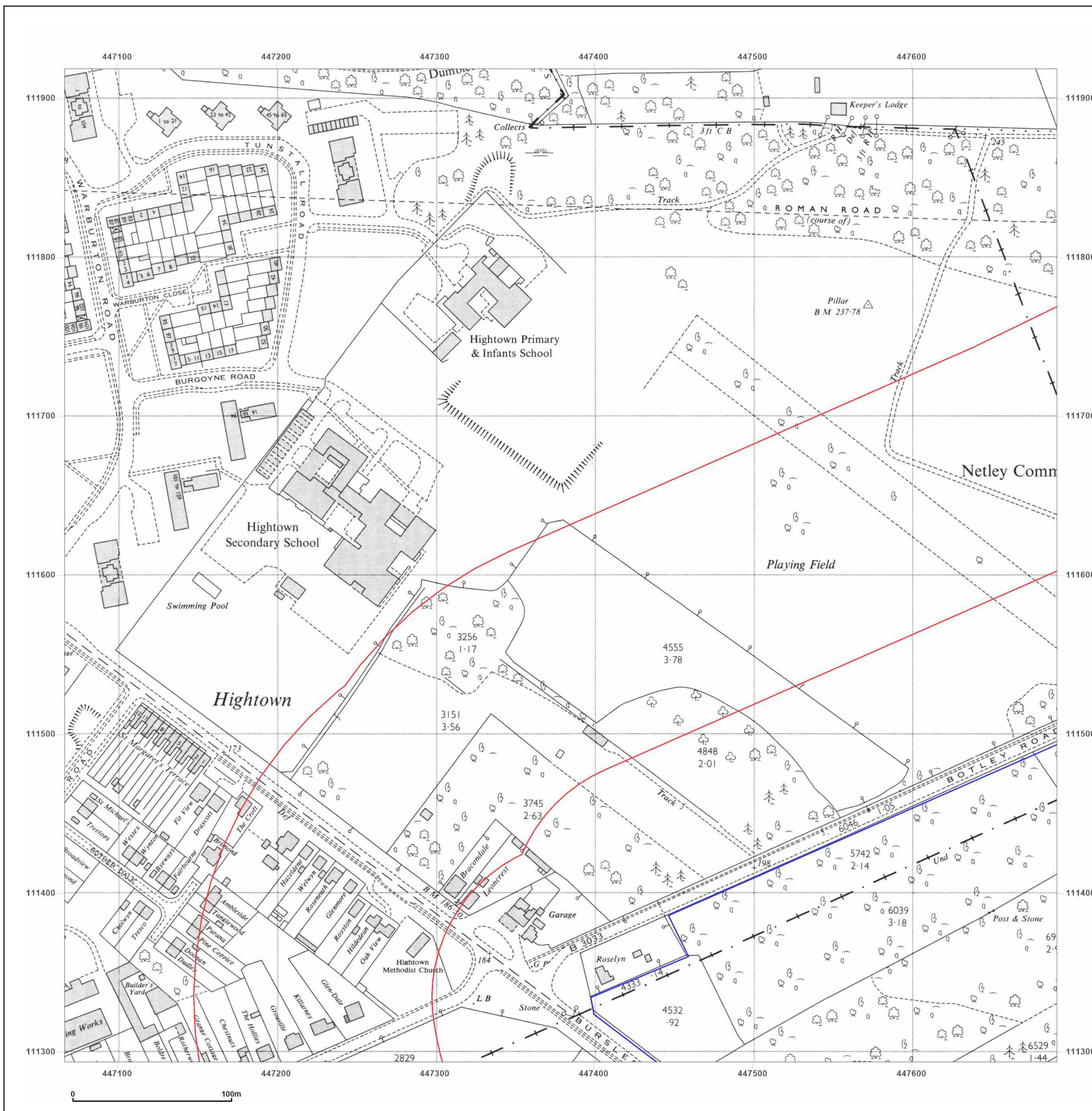


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#### Site Details:

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**Client Ref:** 7025  
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**Map Name:** National Grid

**Map date:** 1965

**Scale:** 1:2,500

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



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

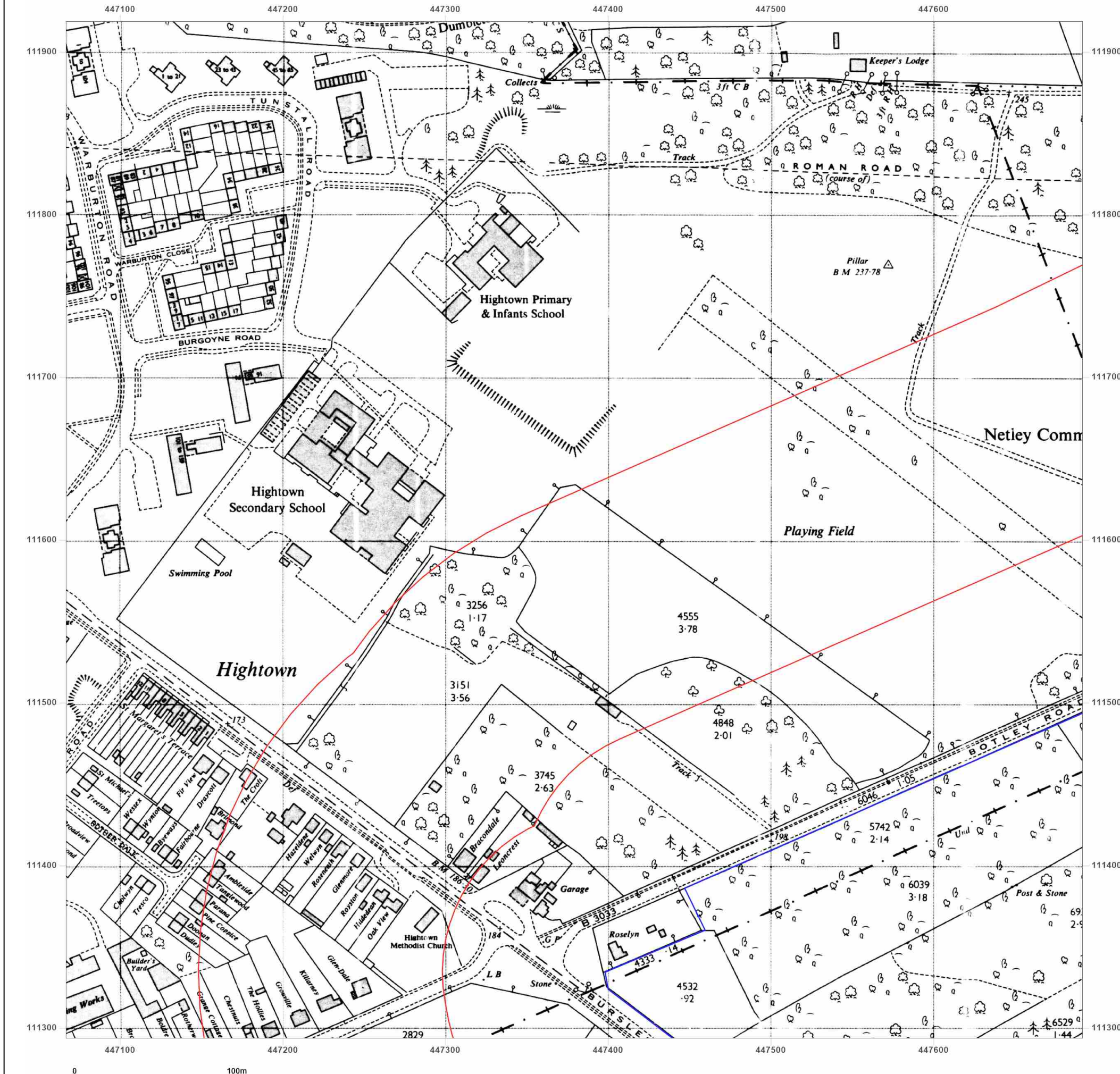


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#### Site Details:

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SO31 8BN

**Client Ref:** 7025  
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**Grid Ref:** 447379, 111606

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:2,500

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



Surveyed 1969  
Revised 1970  
Edition N/A  
Copyright 1972  
Levelled 1959

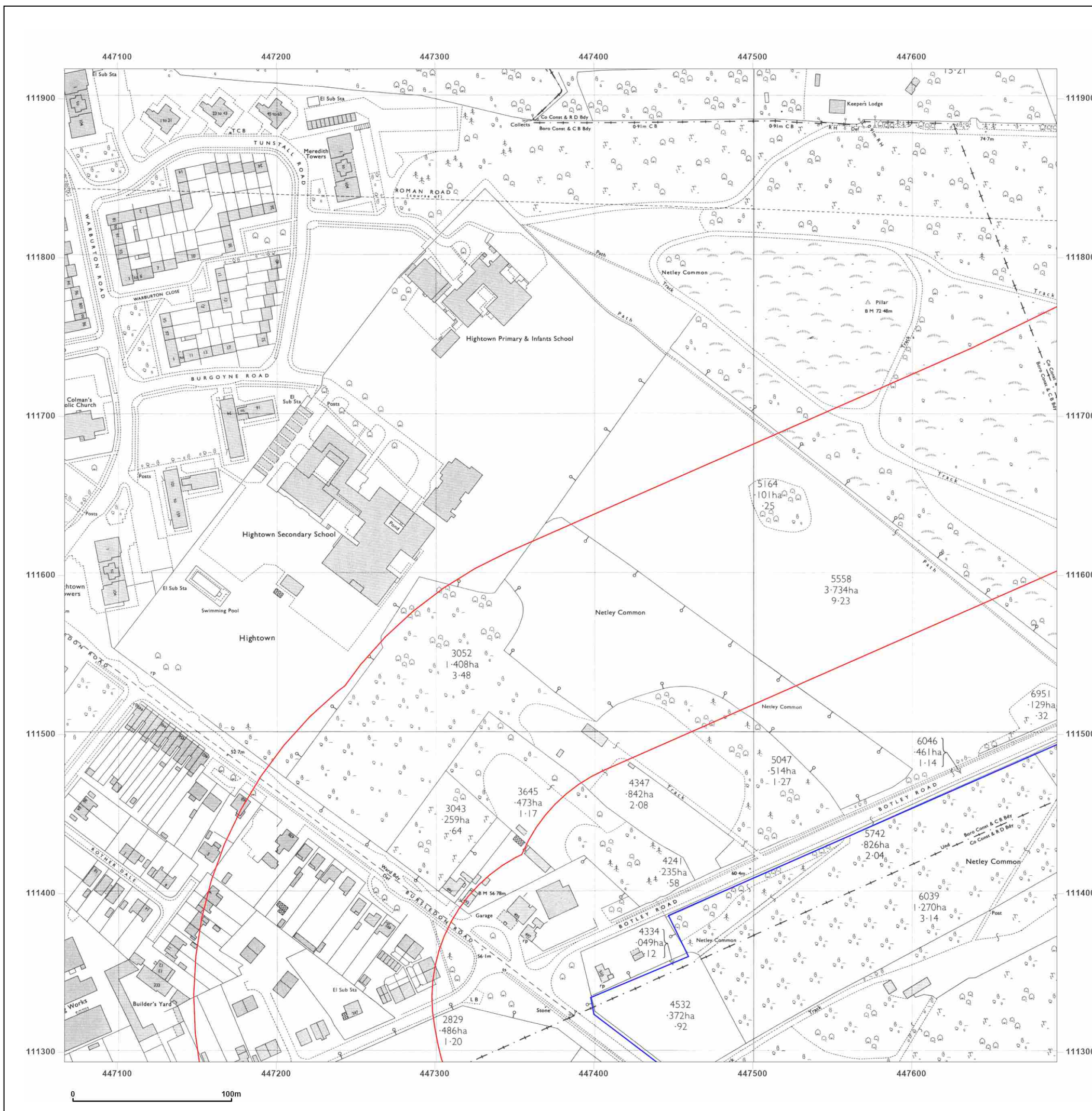


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#### Site Details:

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**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** County Series

**Map date:** 1867

**Scale:** 1:2,500

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



Surveyed 1867  
Revised 1867  
Edition N/A  
Copyright N/A  
Levelled N/A

Surveyed 1867  
Revised 1867  
Edition N/A  
Copyright N/A  
Levelled N/A

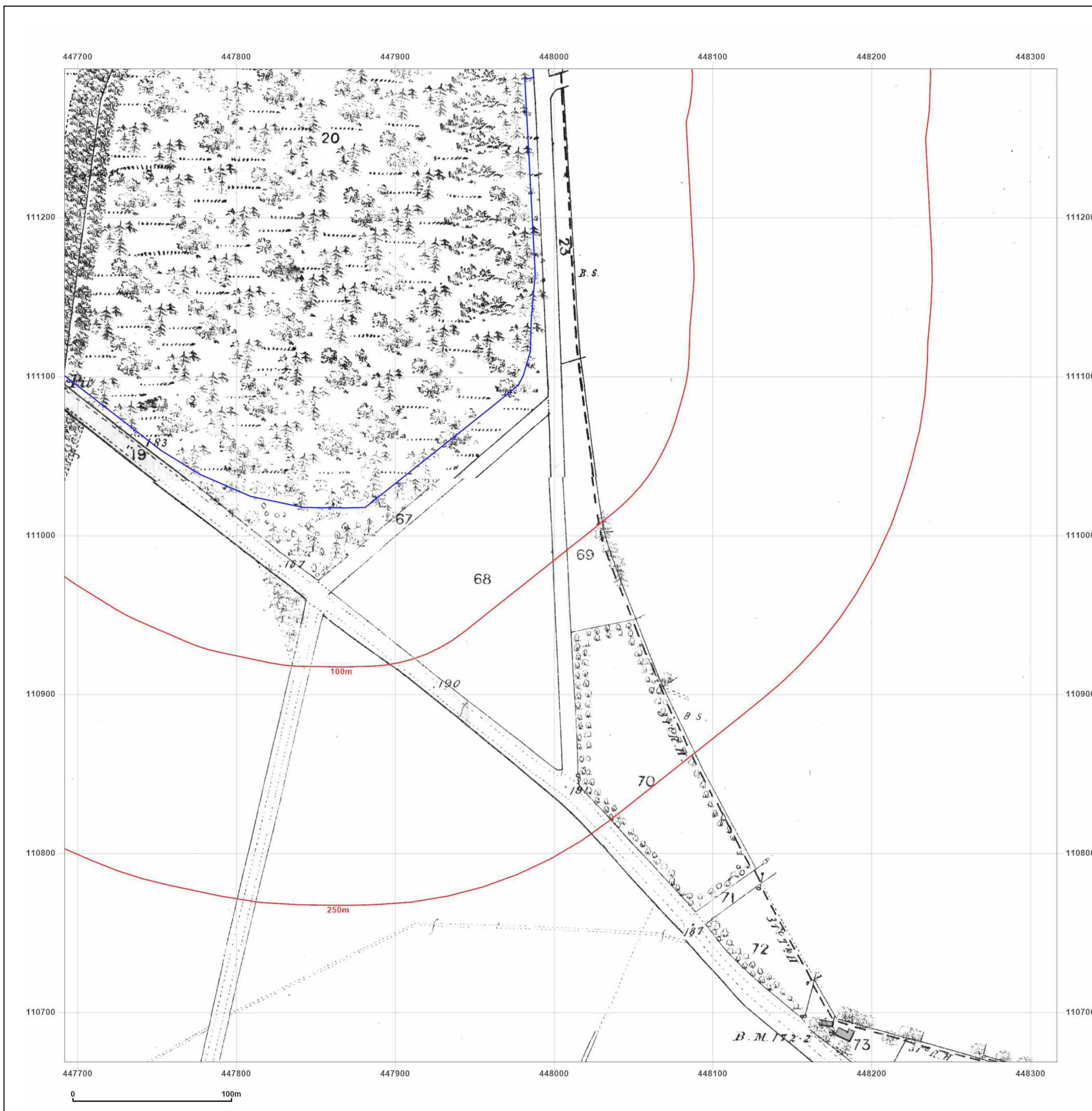


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**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** County Series

**Map date:** 1868

**Scale:** 1:2,500

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



Surveyed 1868  
Revised 1868  
Edition N/A  
Copyright N/A  
Levelled N/A

Surveyed 1868  
Revised 1868  
Edition N/A  
Copyright N/A  
Levelled N/A

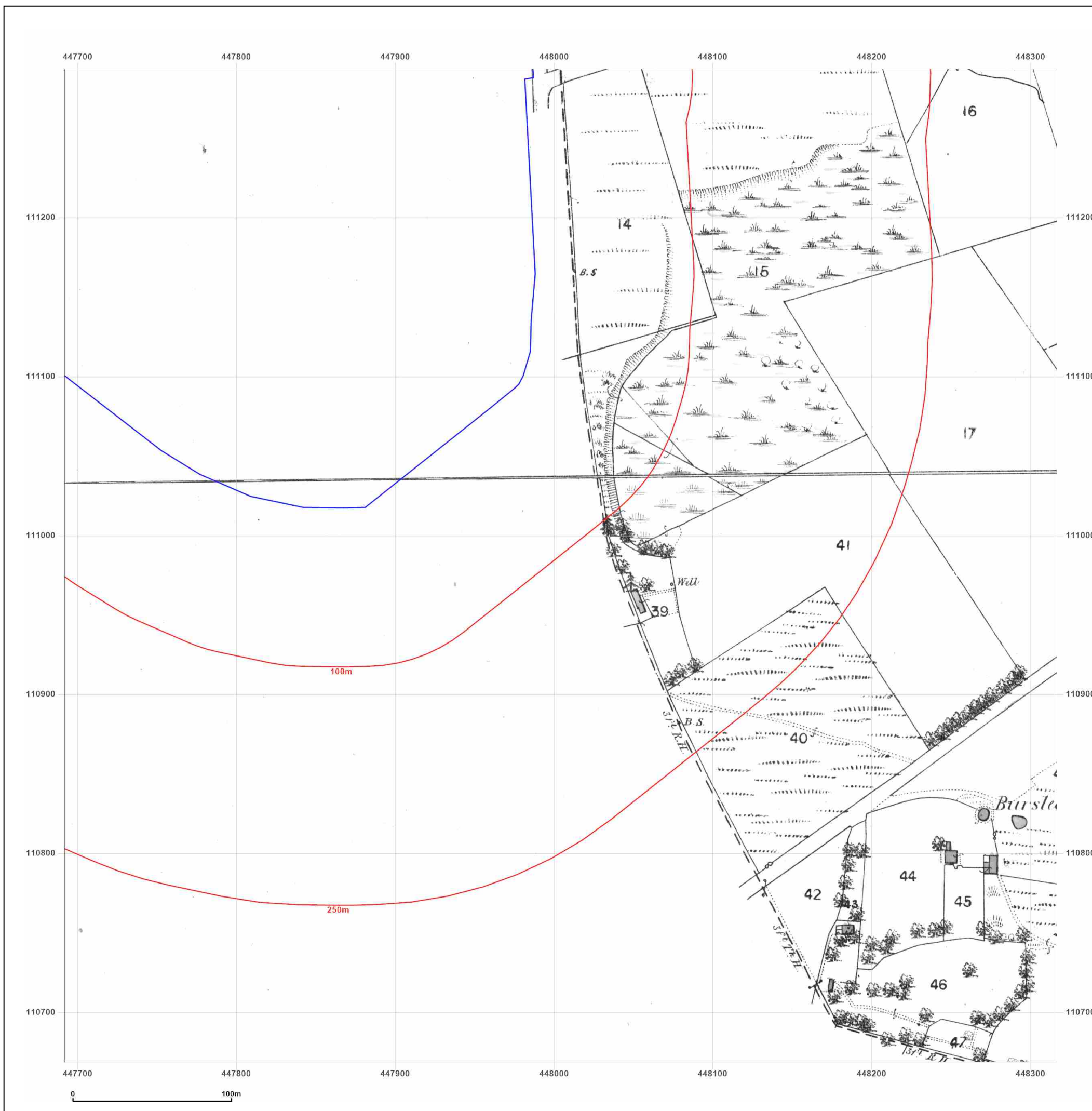


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#### Site Details:

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**Map Name:** County Series

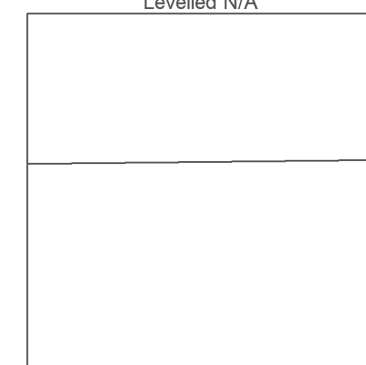
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**Printed at:** 1:2,500



Surveyed 1868  
Revised 1868  
Edition N/A  
Copyright N/A  
Levelled N/A

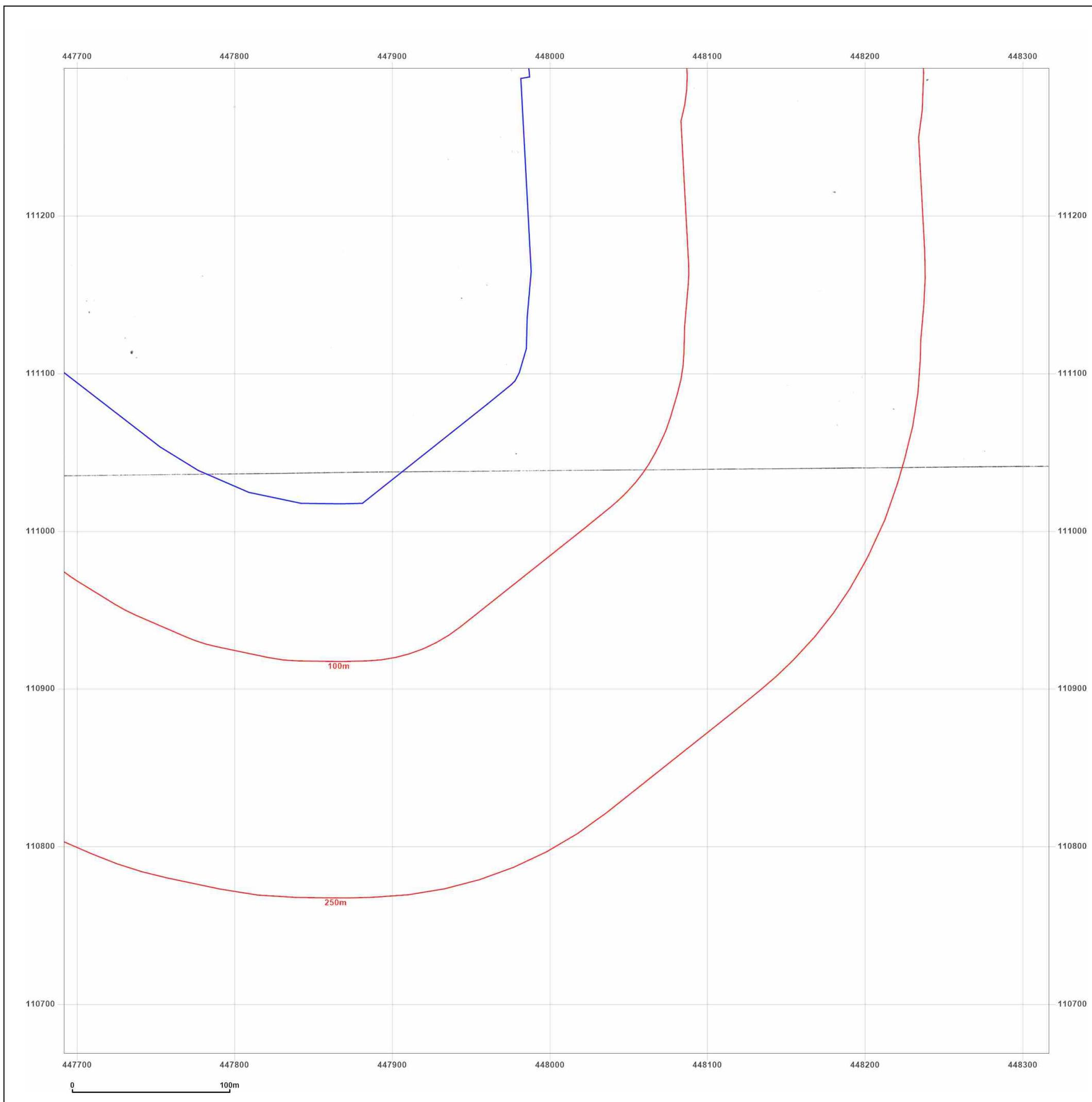


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#### Site Details:

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SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** County Series

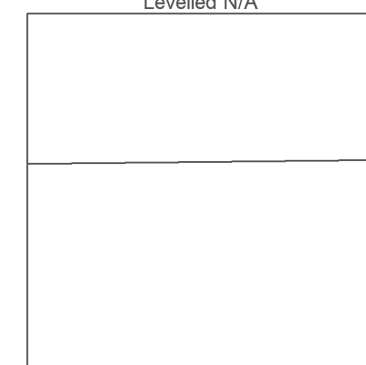
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**Scale:** 1:2,500

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



Surveyed 1869  
Revised 1869  
Edition N/A  
Copyright N/A  
Levelled N/A

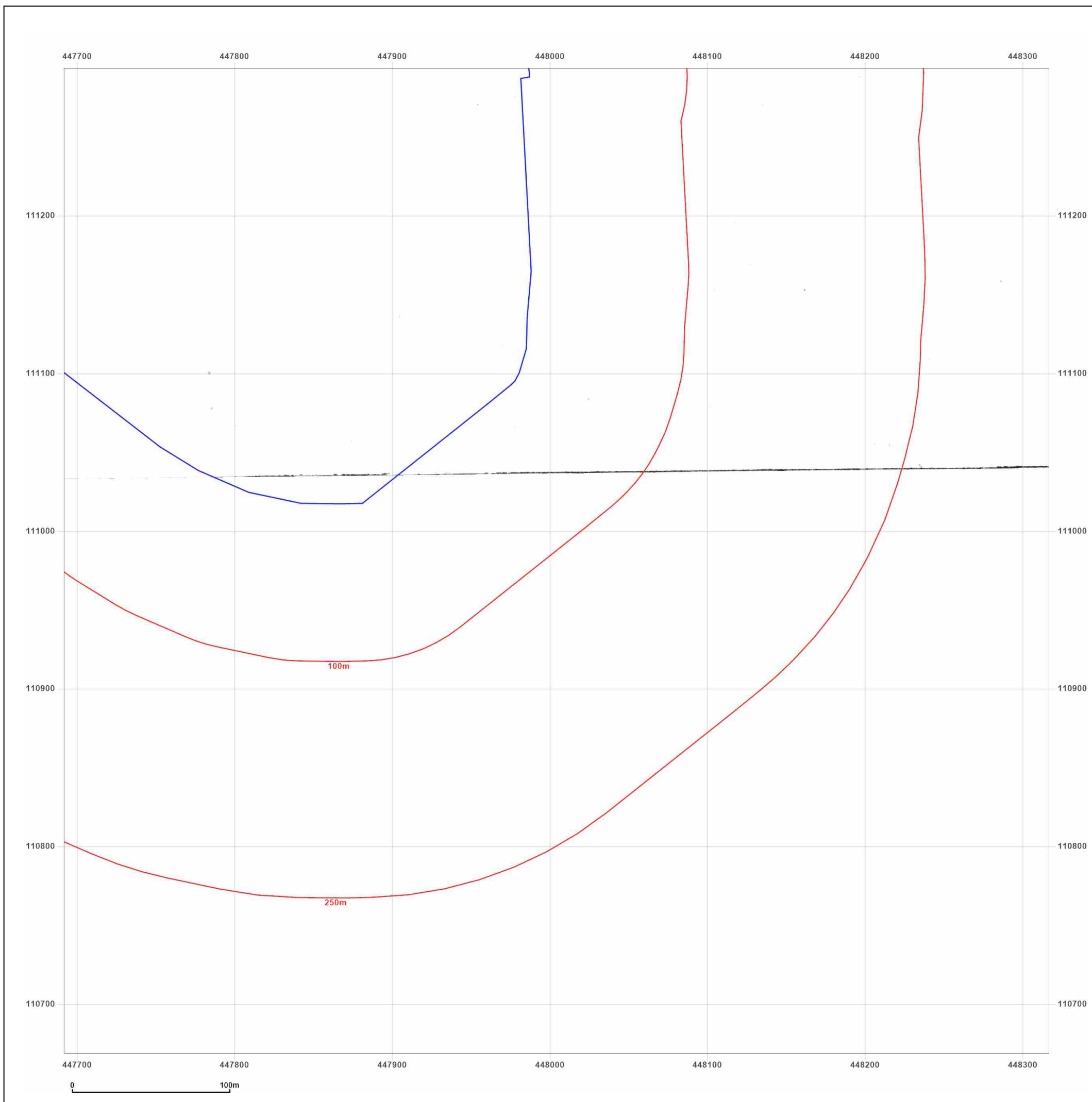


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#### Site Details:

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SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** County Series

**Map date:** 1897

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**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  
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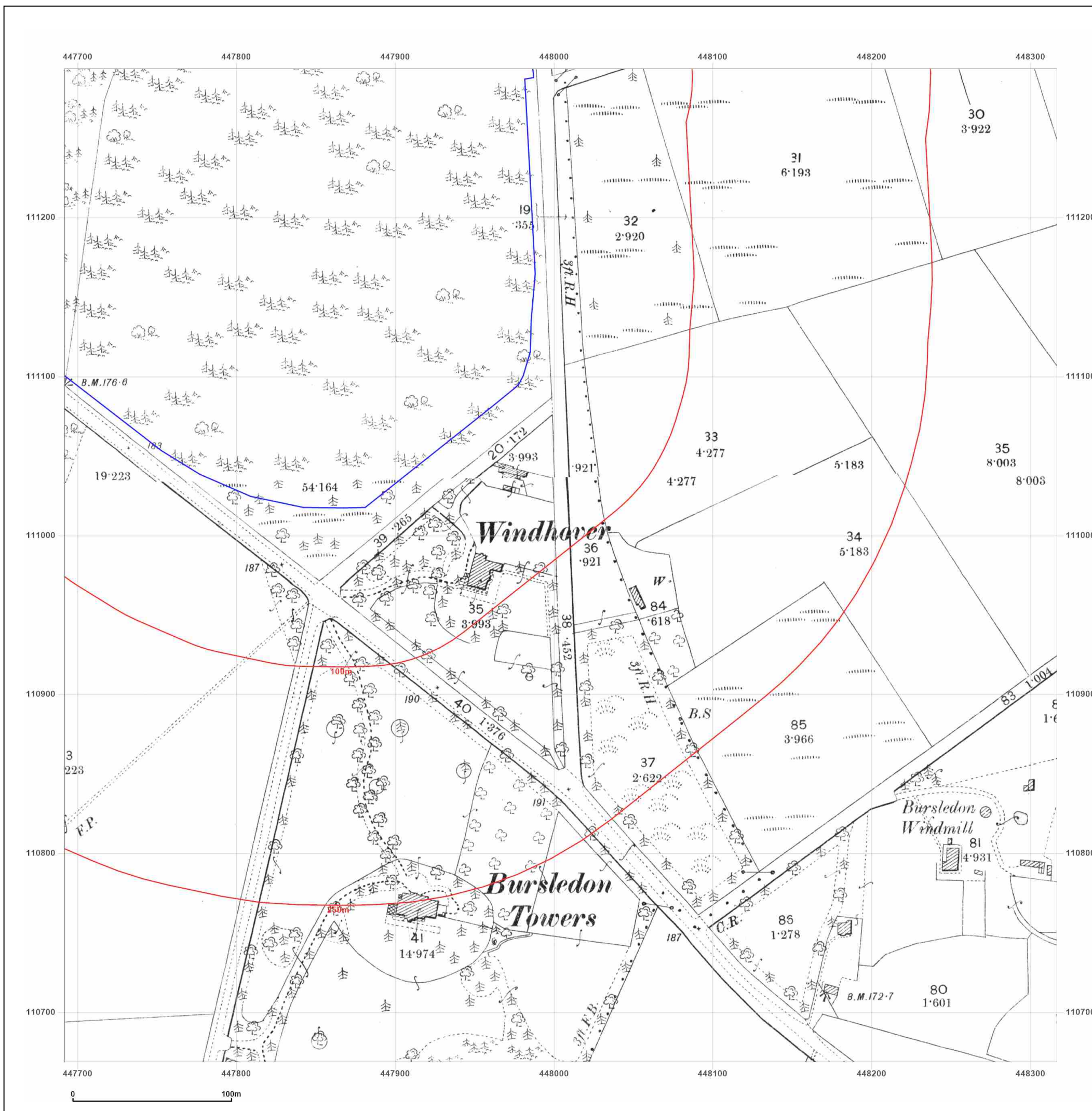


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#### Site Details:

WEST END ROAD, BURSLEDON,  
SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** County Series

**Map date:** 1909

**Scale:** 1:2,500

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



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Edition N/A  
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Surveyed 1909  
Revised 1909  
Edition N/A  
Copyright N/A  
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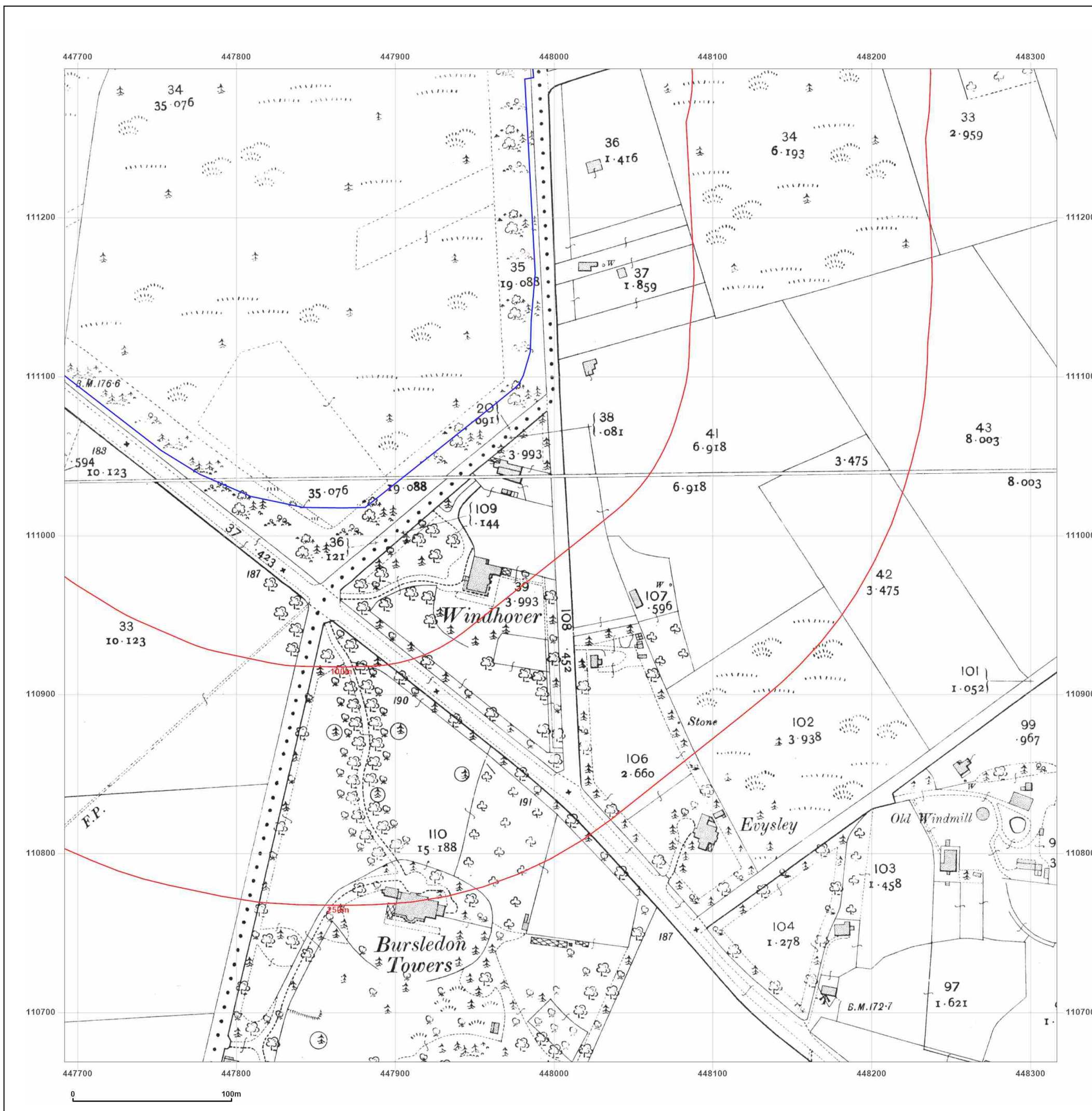


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#### Site Details:

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SO31 8BN

**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** National Grid

**Map date:** 1964-1965

**Scale:** 1:2,500

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



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

Surveyed 1964  
Revised 1964  
Edition N/A  
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#### Site Details:

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**Grid Ref:** 448004, 110981

**Map Name:** National Grid

**Map date:** 1965

**Scale:** 1:2,500

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



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

Surveyed 1965  
Revised 1965  
Edition N/A  
Copyright 1965  
Levelled 1959

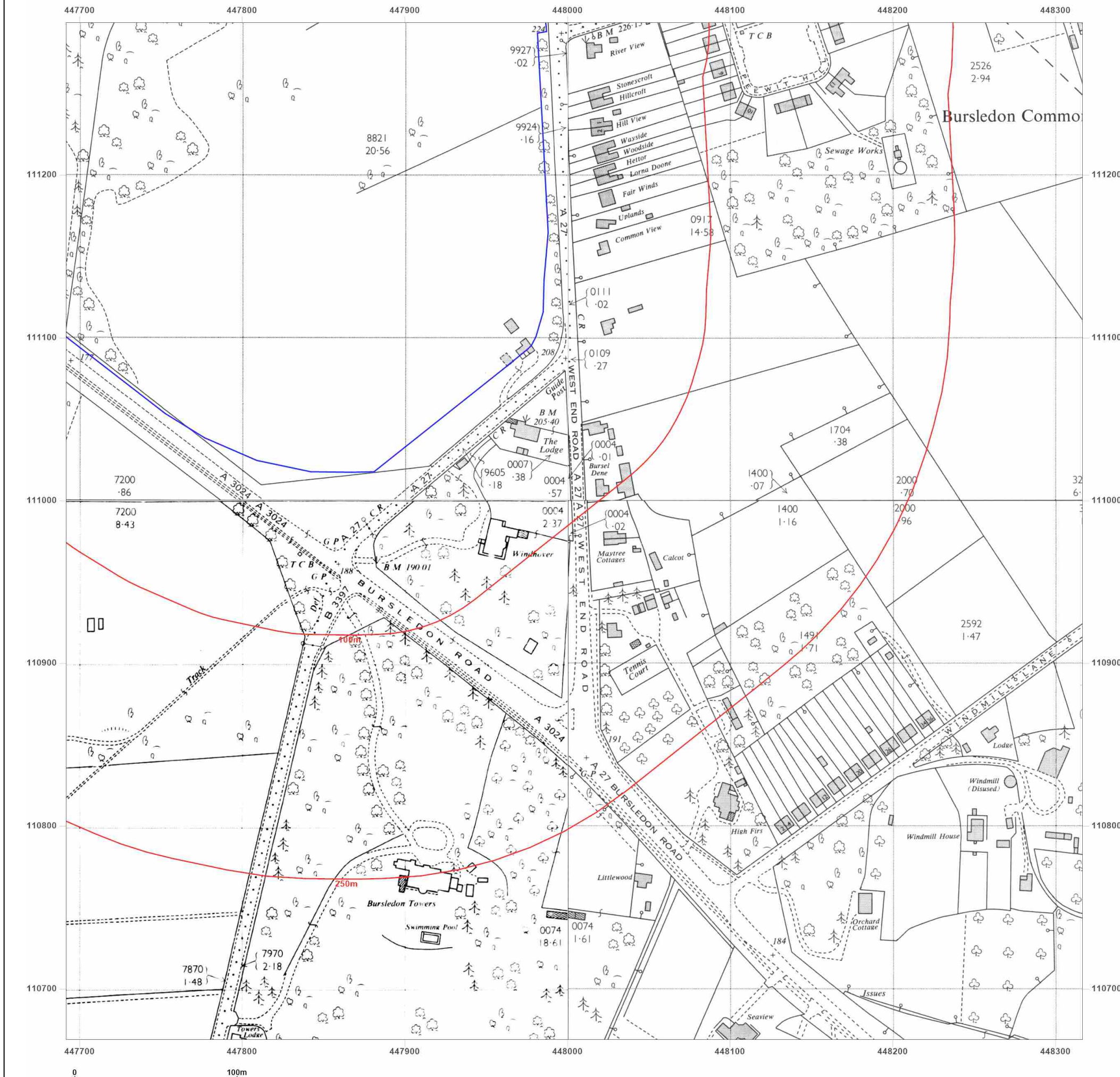


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SO31 8BN

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**Grid Ref:** 448004, 110981

**Map Name:** National Grid

**Map date:** 1970-1975

**Scale:** 1:2,500

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



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Edition N/A  
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Revised 1975  
Edition N/A  
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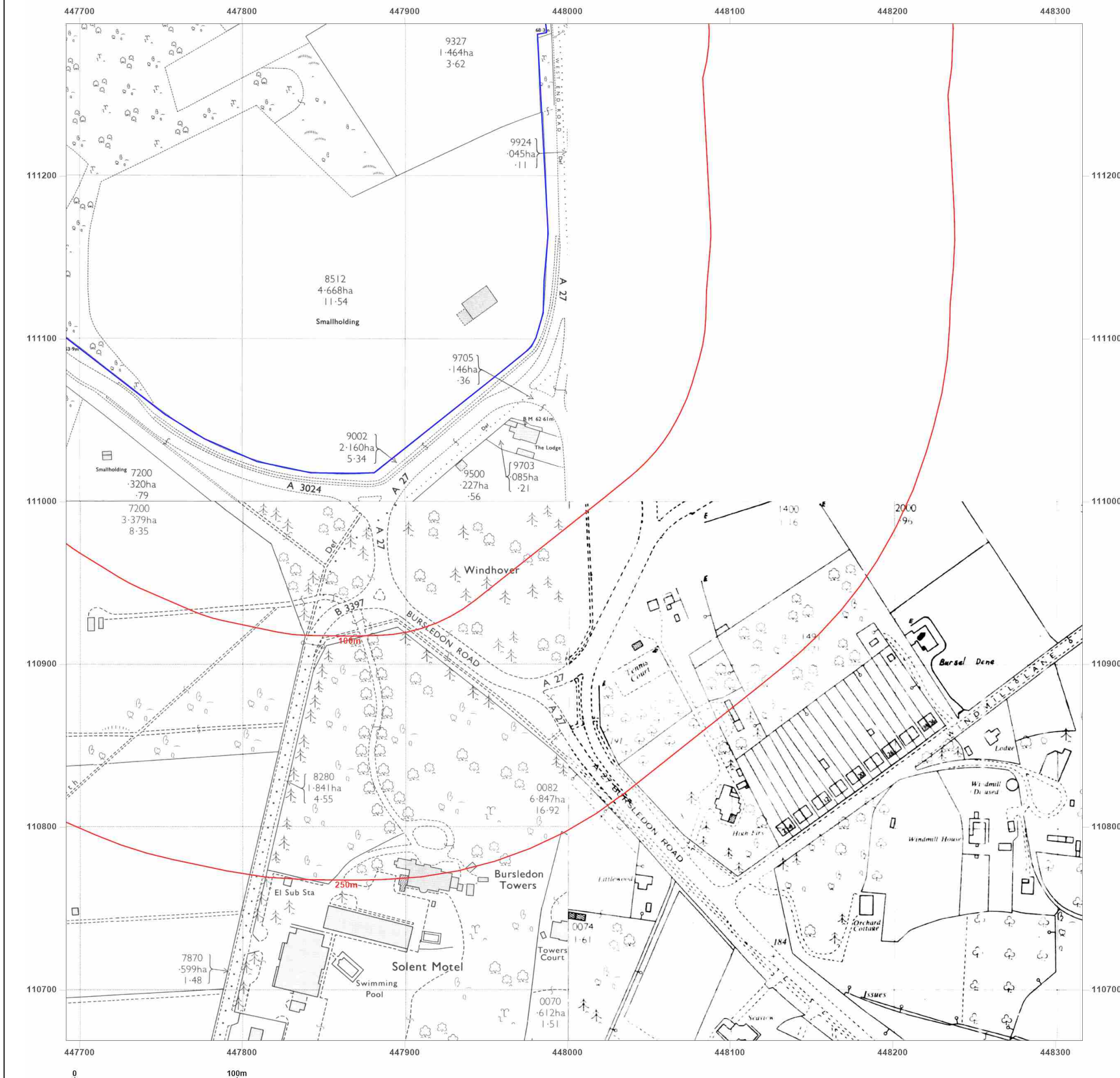


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**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** National Grid

**Map date:** 1972-1977

**Scale:** 1:2,500

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



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

Surveyed 1976  
Revised 1976  
Edition N/A  
Copyright 1979  
Levelled 1959

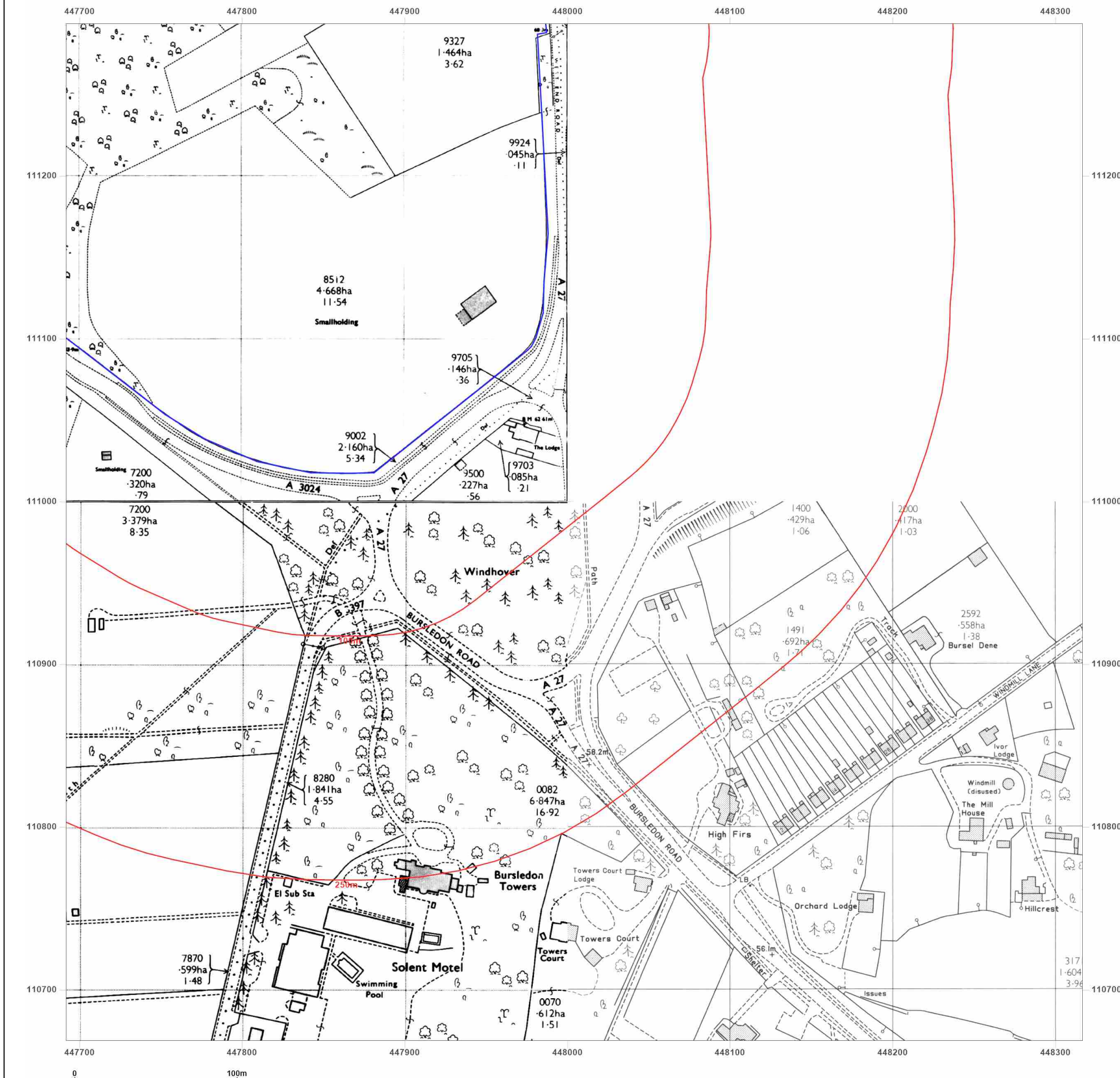


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**Grid Ref:** 448004, 110981

**Map Name:** National Grid

**Map date:** 1979-1983

**Scale:** 1:2,500

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



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Revised N/A  
Edition N/A  
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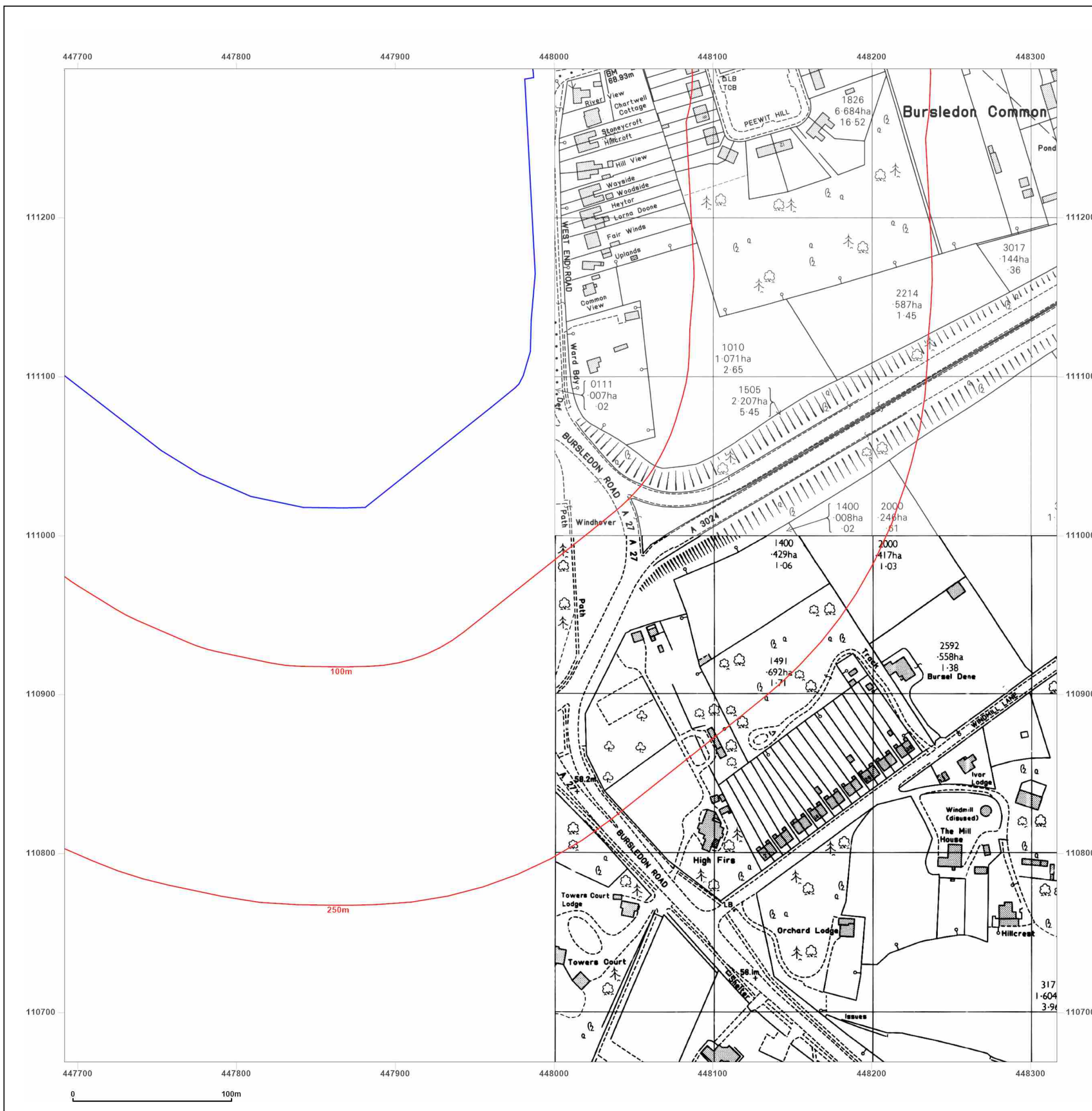


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**Map Name:** National Grid

**Map date:** 1985-1987

**Scale:** 1:2,500

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



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Surveyed 1987  
Revised 1987  
Edition N/A  
Copyright 1988  
Levelled 1959

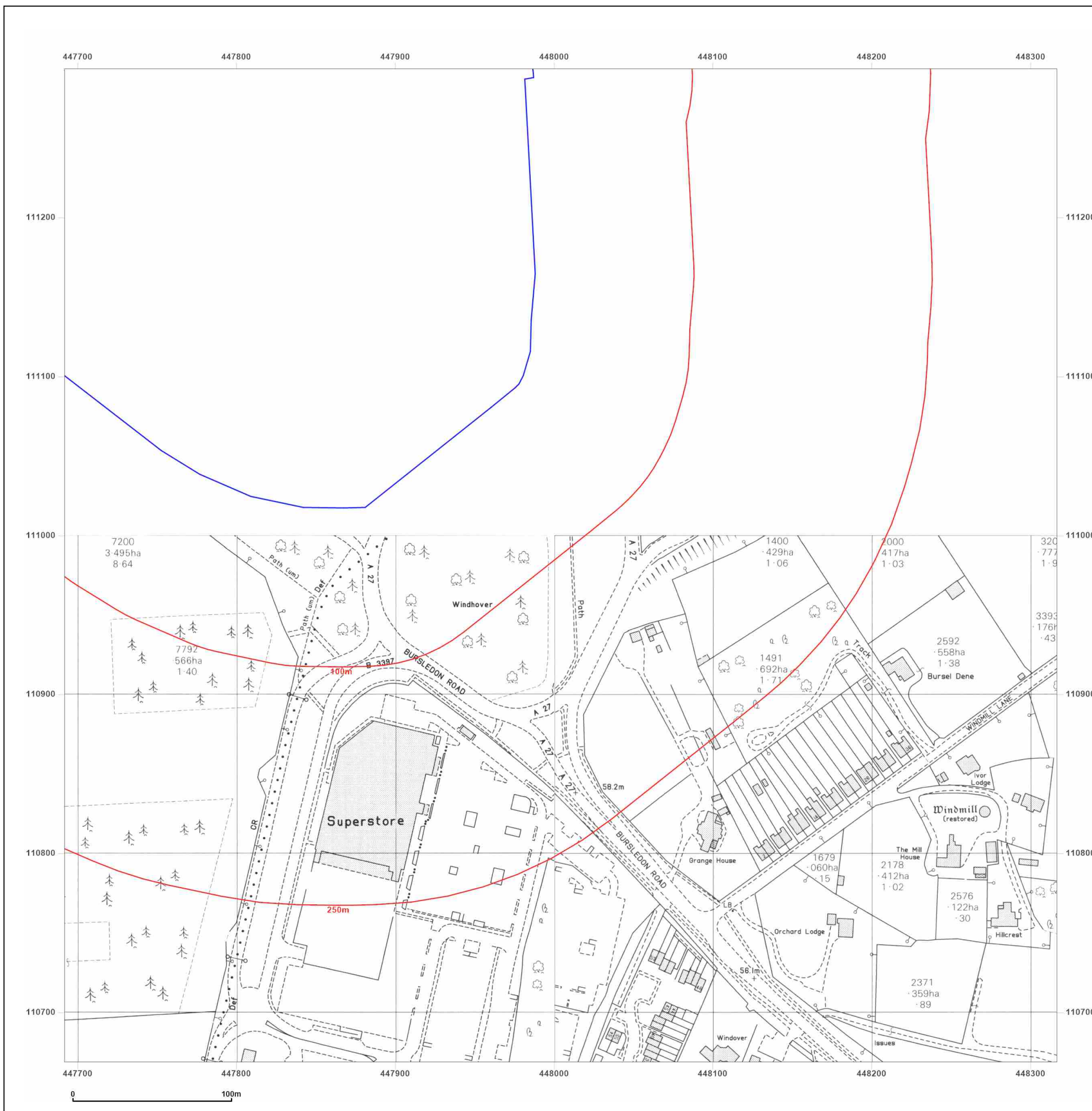


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**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_1  
**Grid Ref:** 448004, 110981

**Map Name:** National Grid

**Map date:** 1988-1993

**Scale:** 1:2,500

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



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Revised 1993  
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Levelled N/A

Surveyed 1959  
Revised 1988  
Edition N/A  
Copyright 1988  
Levelled 1959

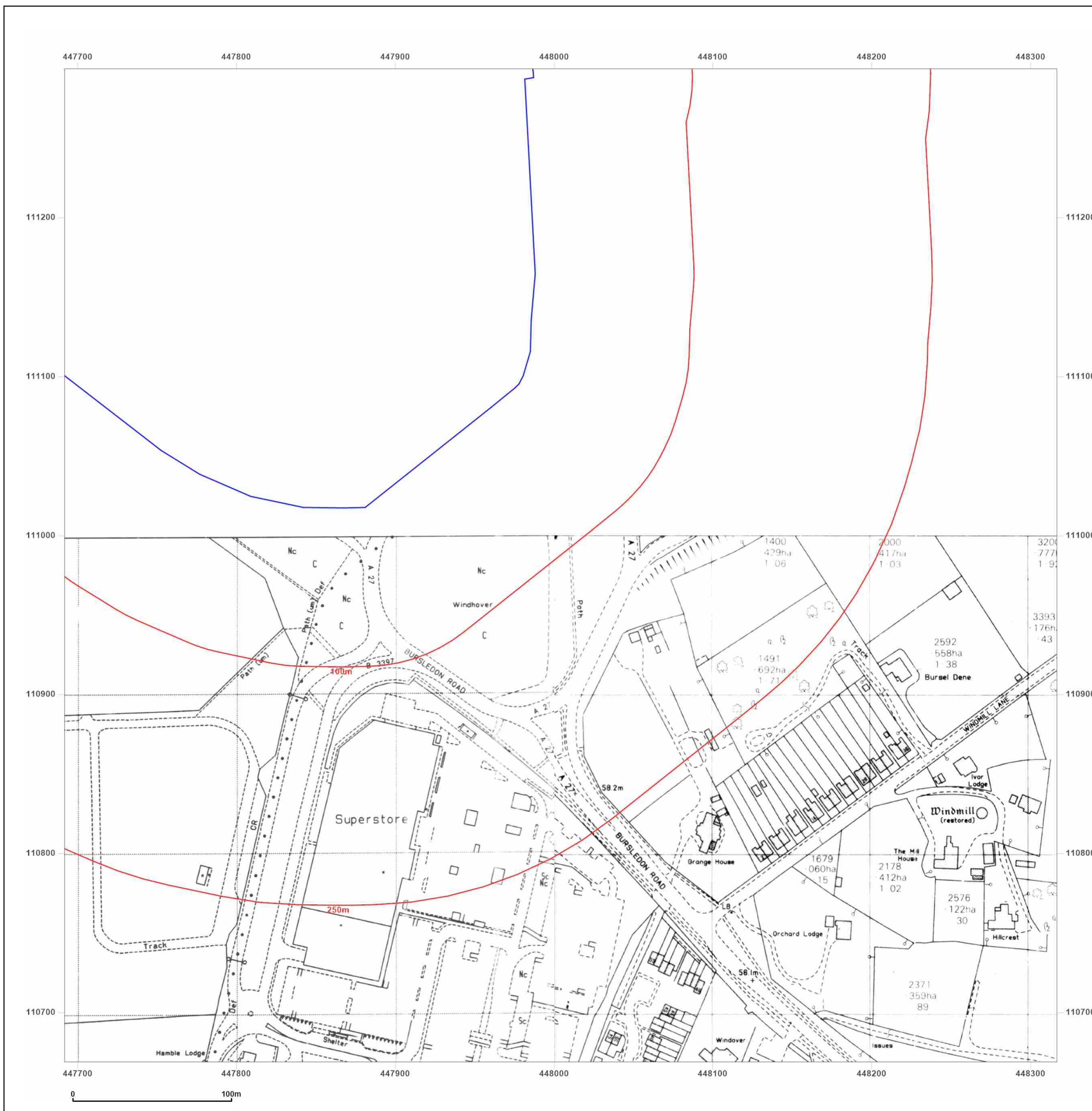


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**Grid Ref:** 448004, 110981

**Map Name:** National Grid

**Map date:** 1988-1993

**Scale:** 1:2,500

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



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Revised 1988  
Edition N/A  
Copyright 1988  
Levelled 1959

Surveyed 1993  
Revised 1993  
Edition N/A  
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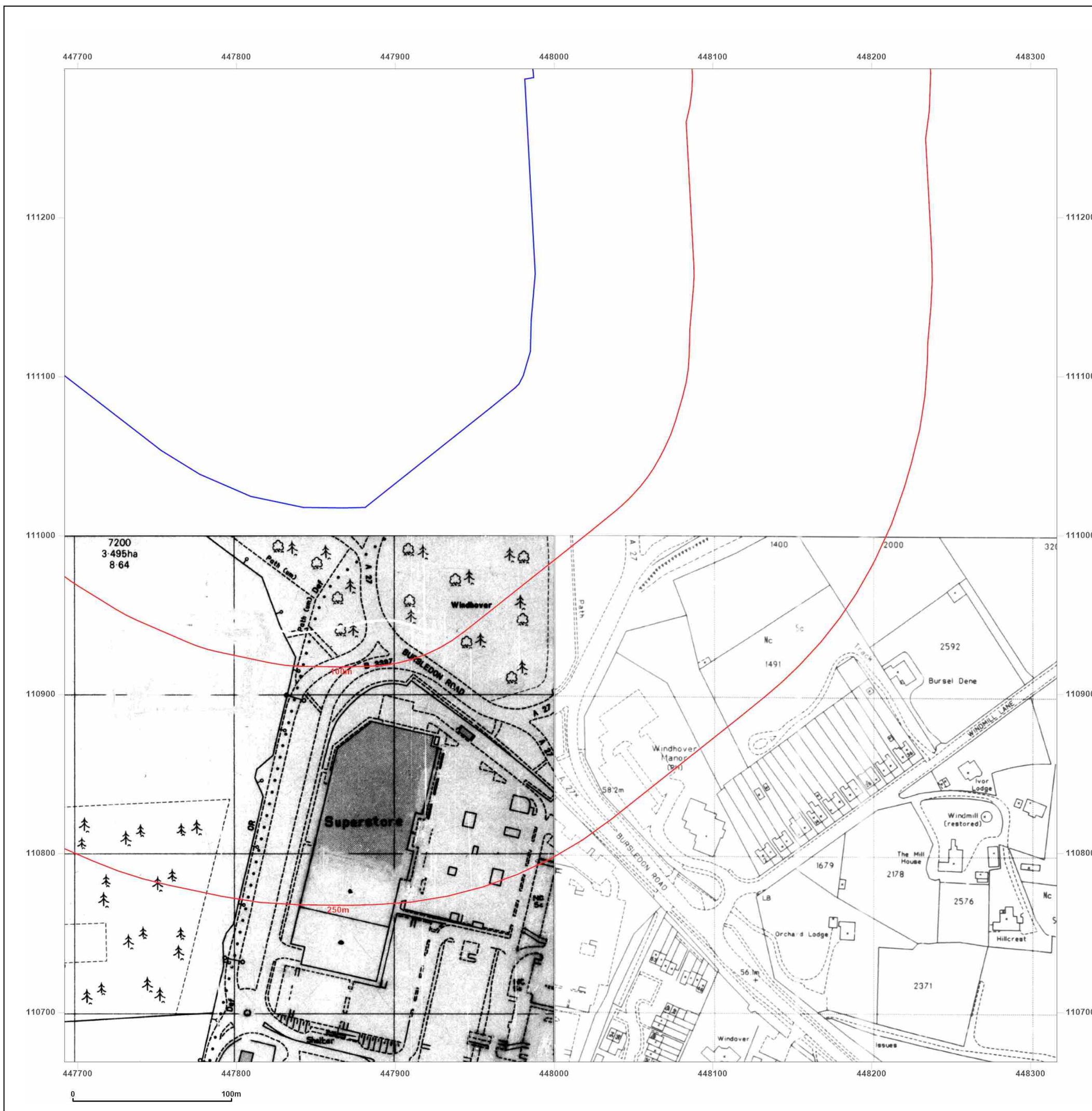


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**Client Ref:** 7025  
**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_2  
**Grid Ref:** 448004, 111606

**Map Name:** County Series

**Map date:** 1867

**Scale:** 1:2,500

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



Surveyed 1867  
Revised 1867  
Edition N/A  
Copyright N/A  
Levelled N/A

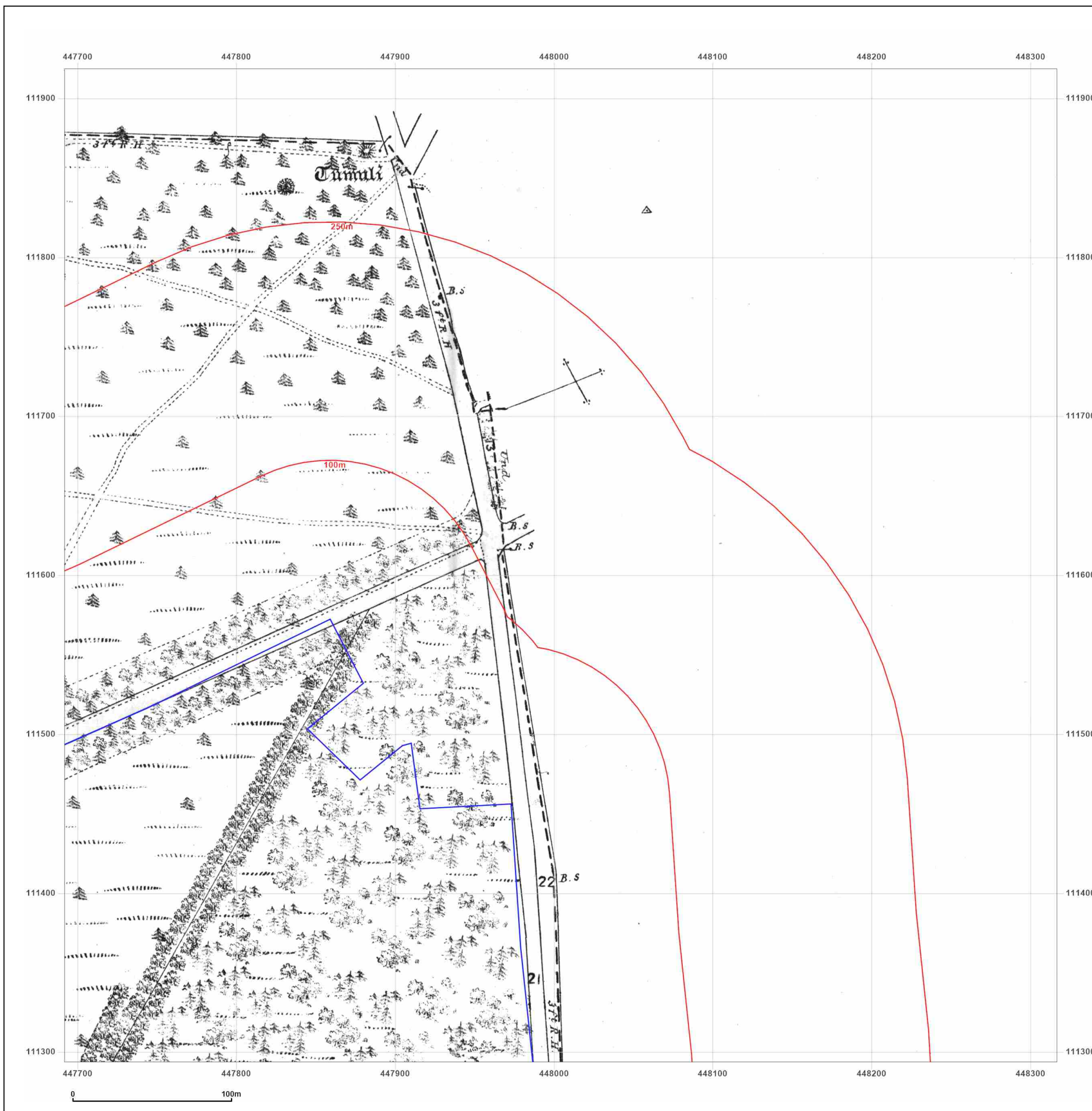


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**Client Ref:** 7025  
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**Grid Ref:** 448004, 111606

**Map Name:** County Series

**Map date:** 1868

**Scale:** 1:2,500

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Surveyed 1868  
Revised 1868  
Edition N/A  
Copyright N/A  
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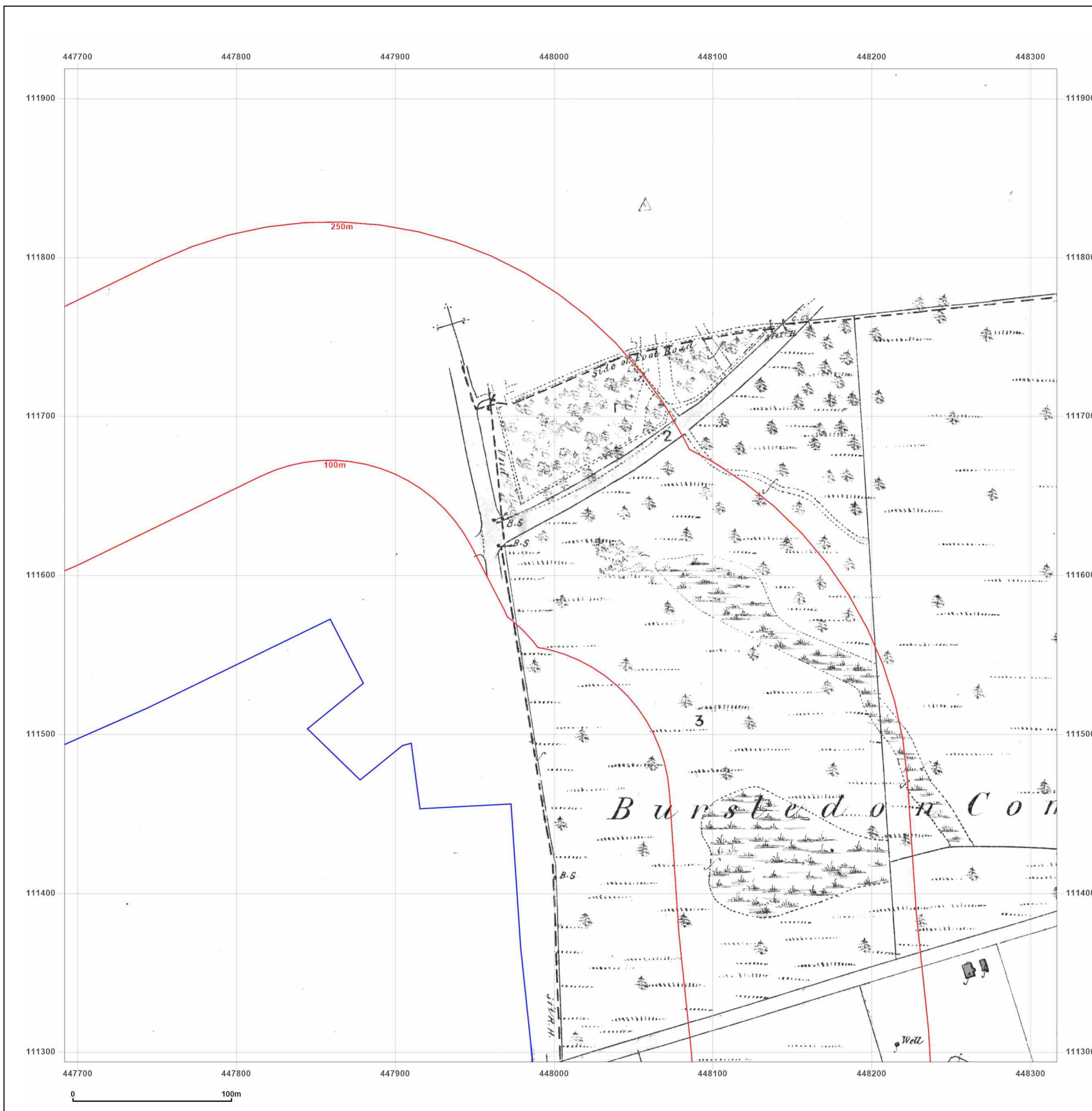


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**Map date:** 1868

**Scale:** 1:2,500

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



Surveyed 1868  
Revised 1868  
Edition N/A  
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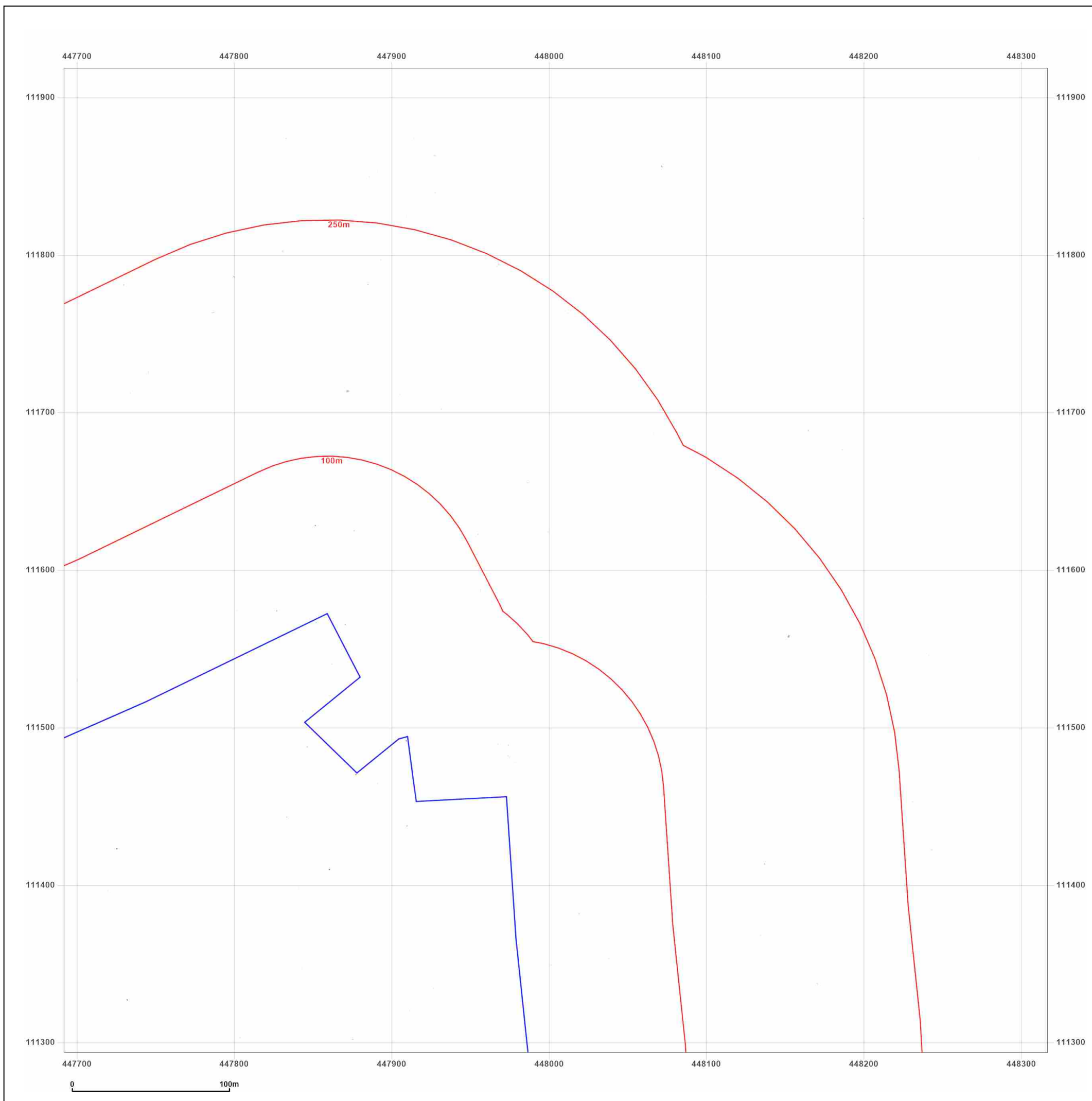


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**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_2  
**Grid Ref:** 448004, 111606

**Map Name:** County Series

**Map date:** 1869

**Scale:** 1:2,500

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



Surveyed 1869  
Revised 1869  
Edition N/A  
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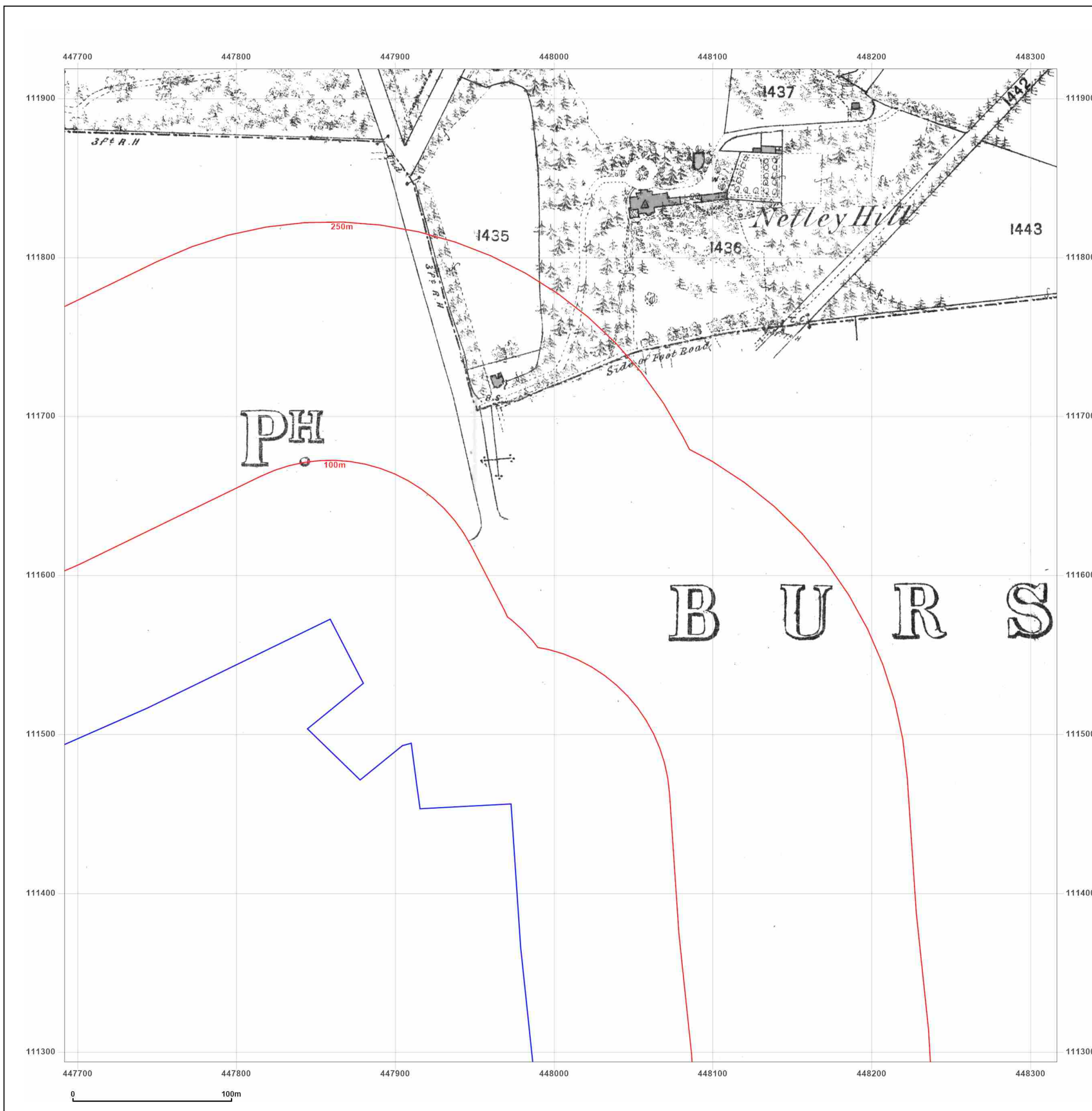


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**Map Name:** County Series

**Map date:** 1897

**Scale:** 1:2,500

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



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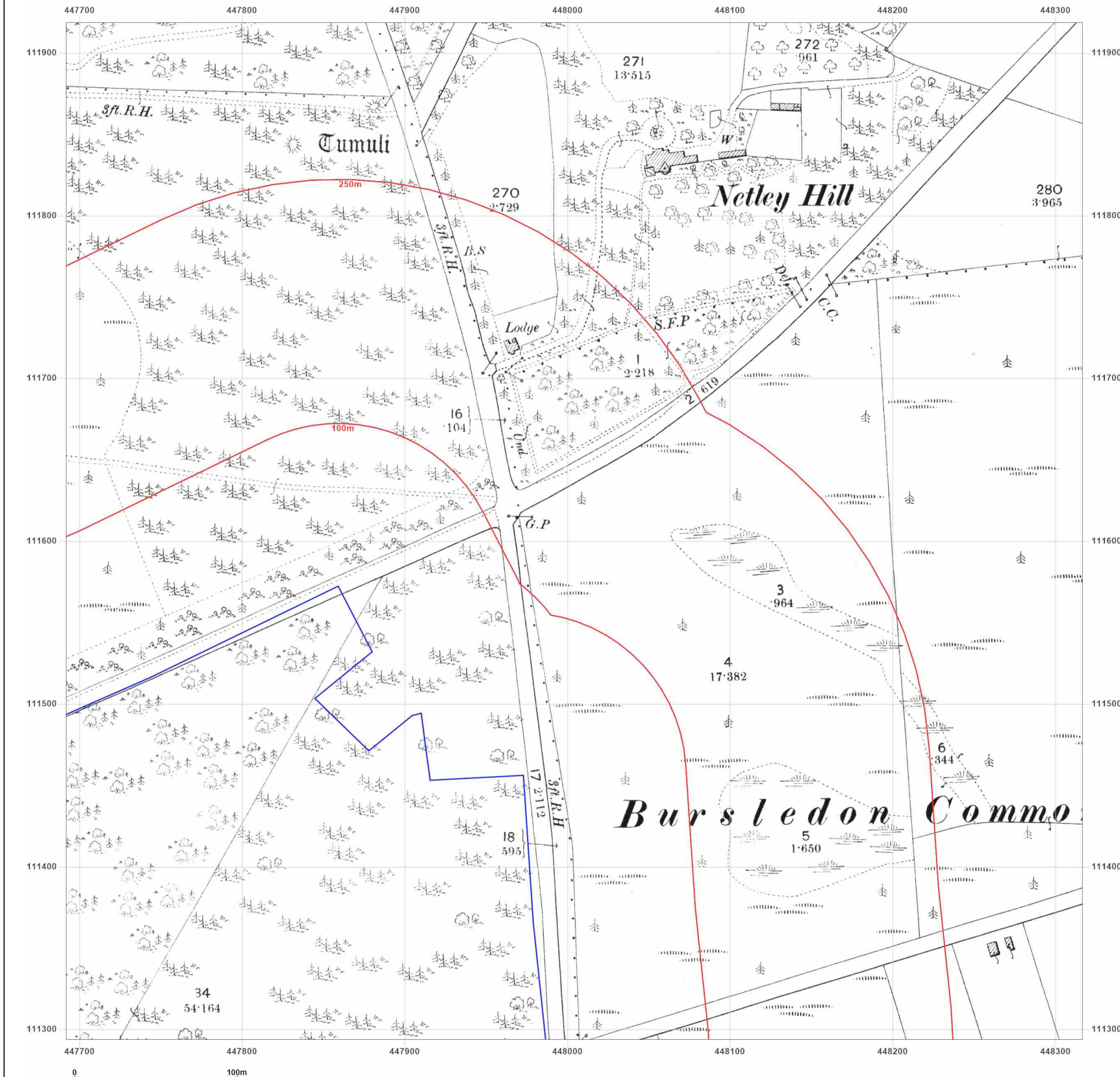


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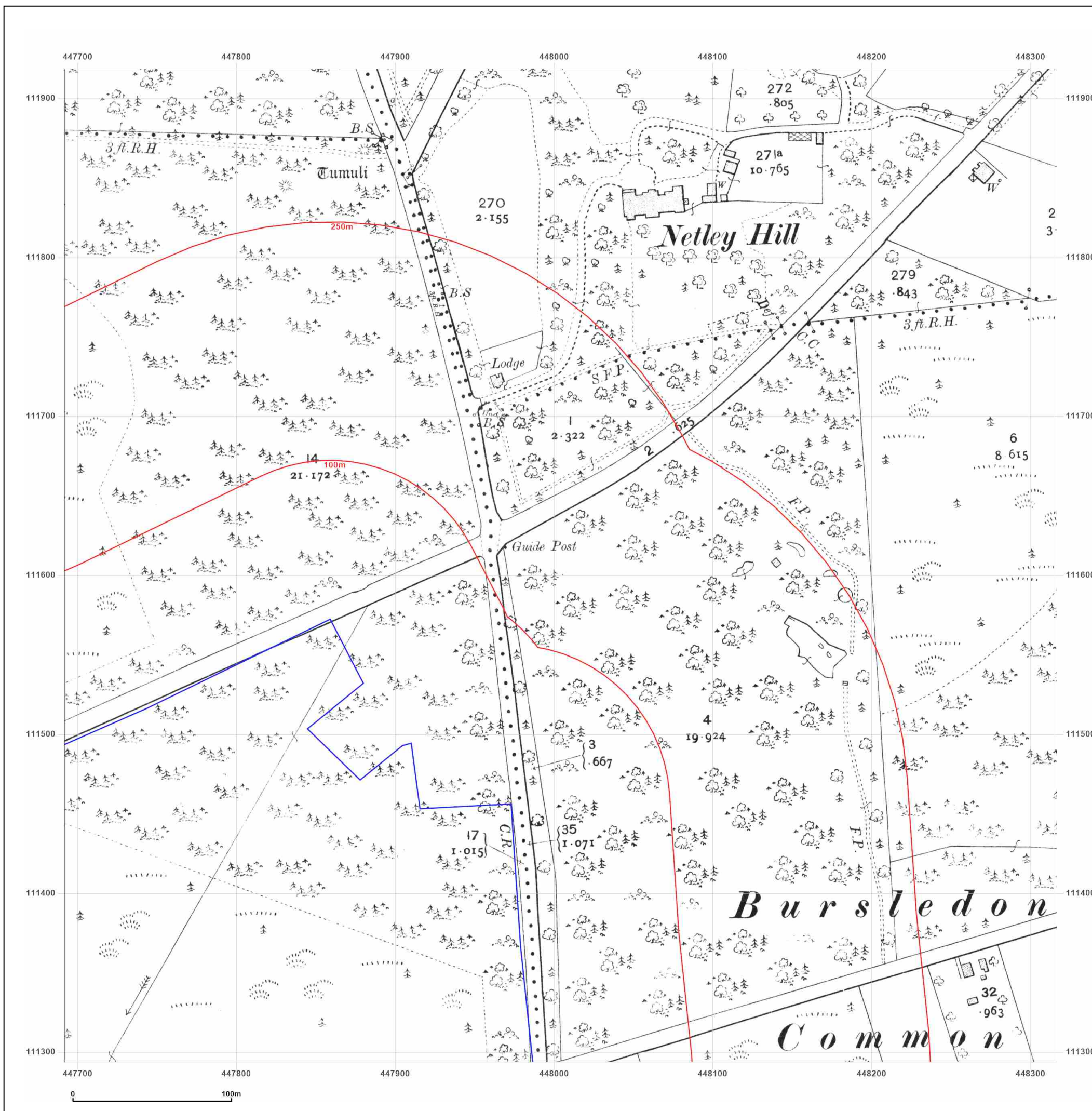


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**Grid Ref:** 448004, 111606

**Map Name:** National Grid

**Map date:** 1965

**Scale:** 1:2,500

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



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Revised N/A  
Edition N/A  
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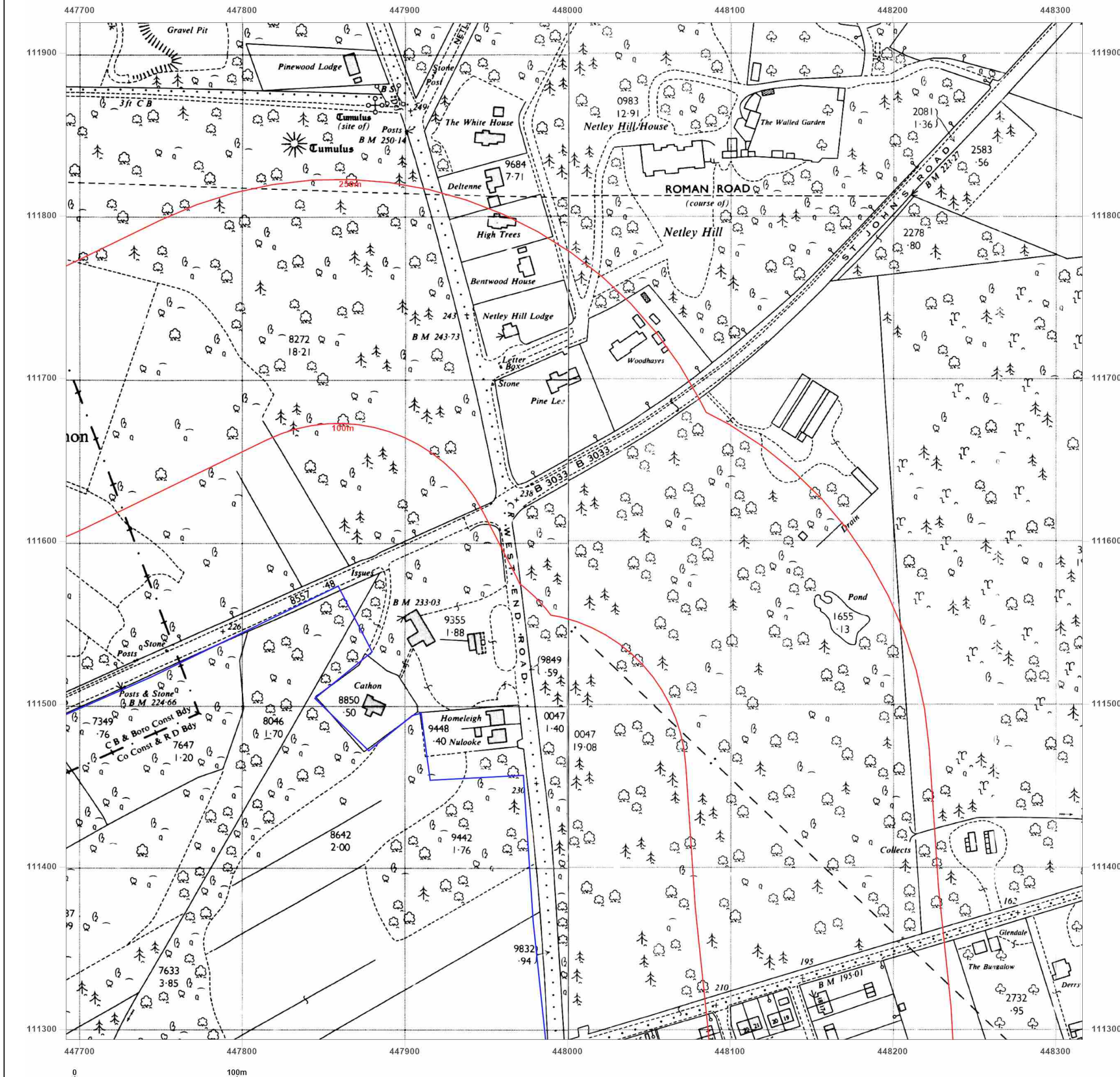


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**Report Ref:** GS-2F5-V7L-3KE-C82\_LS\_2\_2  
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Revised 1965  
Edition N/A  
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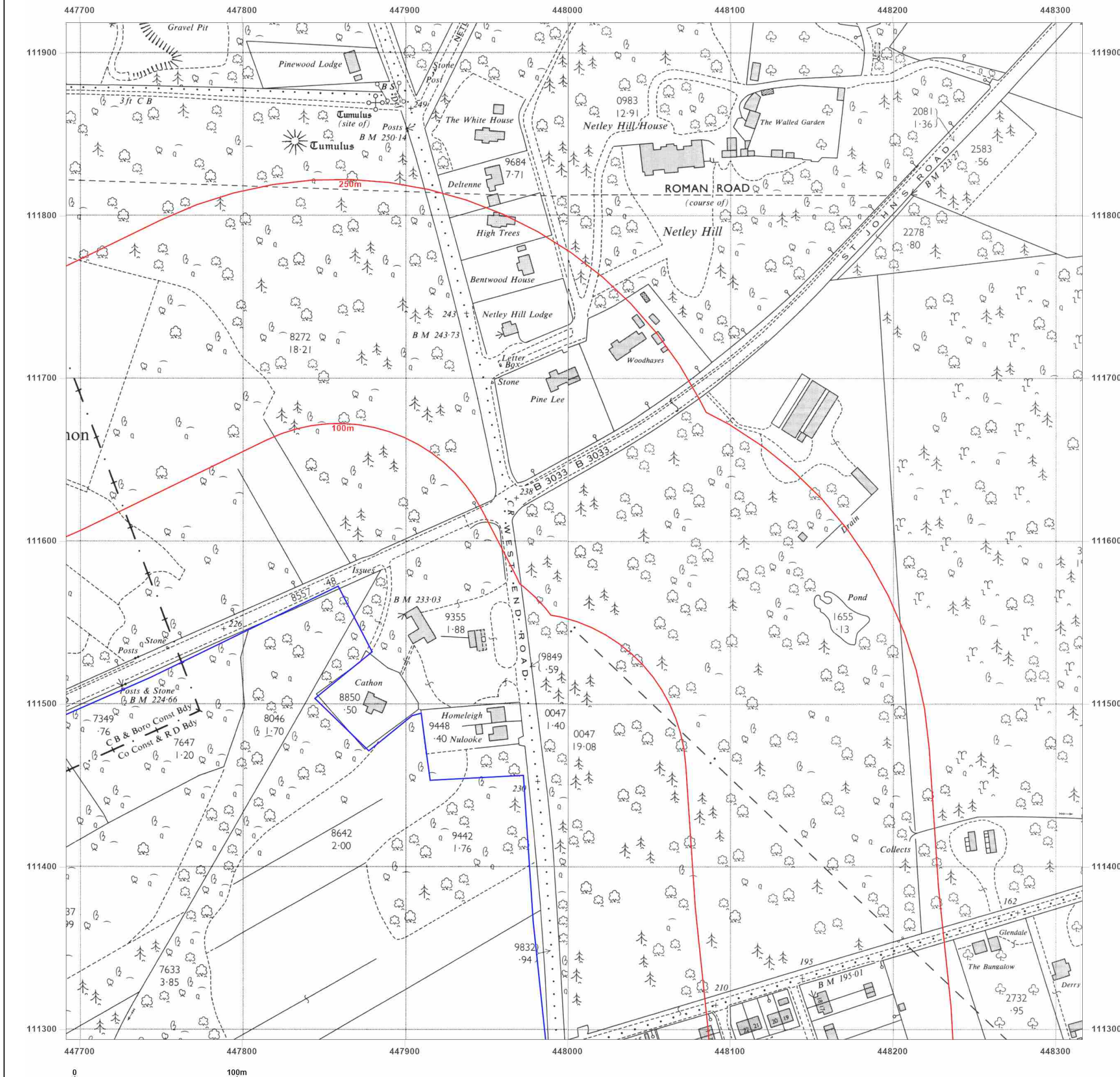


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**Grid Ref:** 448004, 111606

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:2,500

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



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**Map Name:** National Grid

**Map date:** 1972

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



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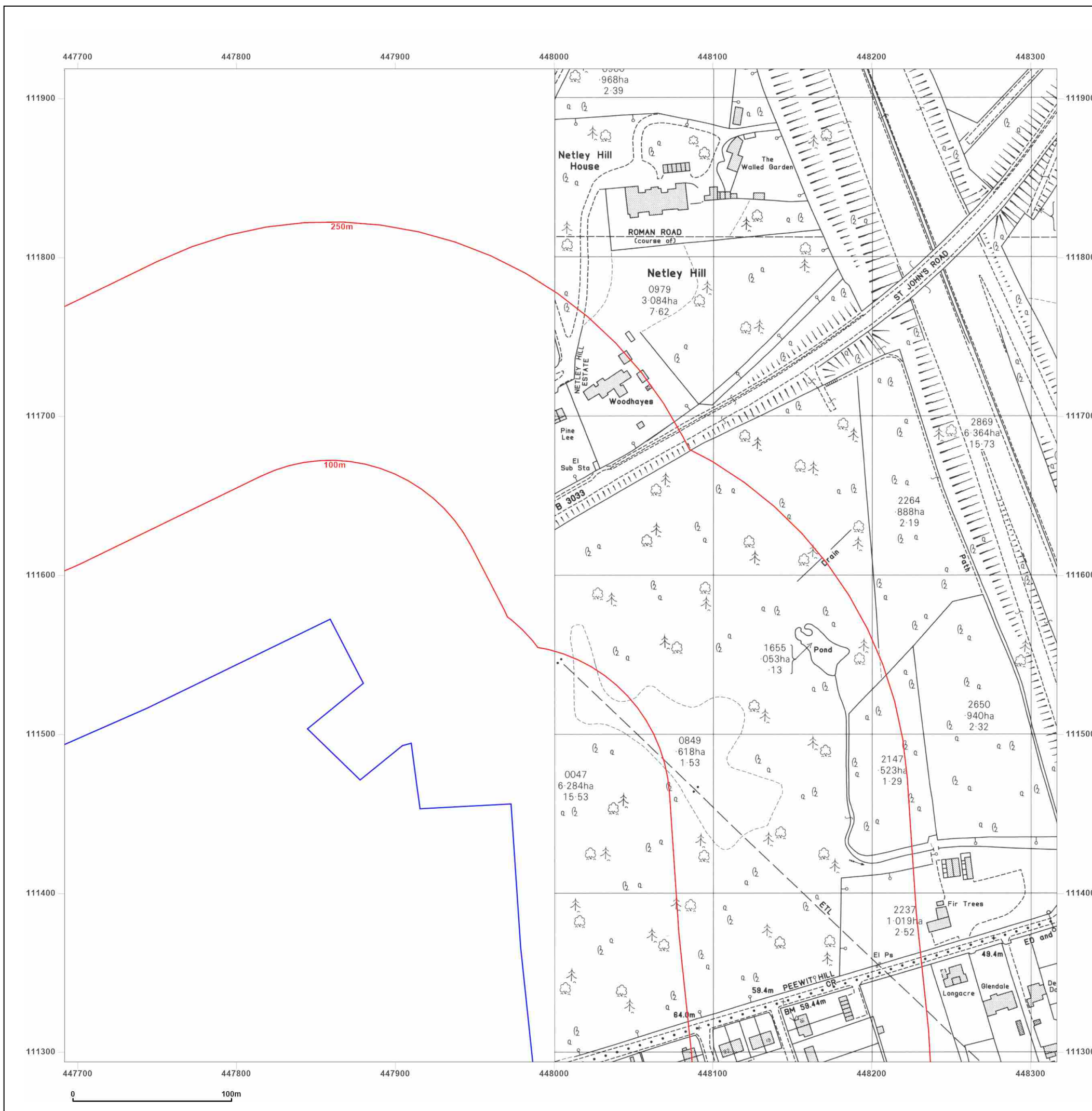


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BH14

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Project Name: M27 Junction 8 Project No: 16957

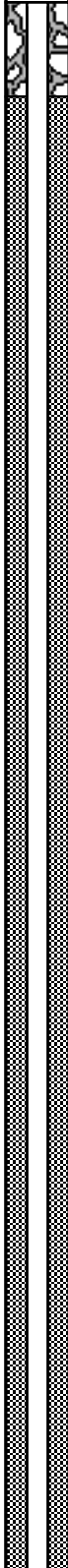
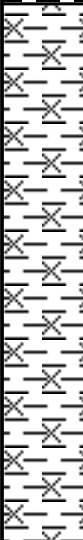
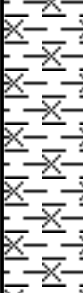
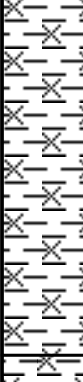
Borehole ID: BH14

Location: M27 Junction 8, Burseldon, Southampton SO31 Co-ords (British National Grid): 447894 - 111037 Level: 59.84

Hole Type: CP Logged By: Dates: -

Client: Interserve Construction Contractor: Project Engineer: Tom Rees-Blanchard

Plant Used: SPT Hammer Serial No:

| Well                                                                              | Water                                                                              | Samples   |      | Result             | Depth (m) | Level (m) | Legend                                                                               | Stratum Description                                                                                                                     | Depth<br>m |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------|------|--------------------|-----------|-----------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------|
|                                                                                   |                                                                                    | Depth (m) | Type |                    |           |           |                                                                                      |                                                                                                                                         |            |
|  |  |           |      | N=8 (1,1/2,2,2,2)  | 0.50      | 59.34     |    | Dark brown sandy gravelly SILT Sand is fine Gravel is sub angular and sub rounded fine to coarse flint Rare brick fragments MADE GROUND | 0.5        |
|                                                                                   |                                                                                    |           |      |                    | 0.90      | 58.94     |    | Light brown very sandy CLAY Sand is fine to coarse WITTERING FORMATION                                                                  | 1.0        |
|                                                                                   |                                                                                    |           |      |                    | 1.20      | 58.64     |   | Light orangish brown to reddish brown mottled grey and yellow sandy CLAY WITTERING FORMATION                                            | 1.5        |
|                                                                                   |                                                                                    |           |      | N=10 (1,1/3,2,2,3) |           |           |  | Firm to stiff reddish orange mottled light blueish grey slightly silty CLAY WITTERING FORMATION                                         | 2.0        |
|                                                                                   |                                                                                    |           |      |                    |           |           |  | Stiff light grey becoming brownish grey slightly silty CLAY Frequent fine laminations at light grey LONDON CLAY FORMATION               | 2.5        |
|                                                                                   |                                                                                    |           |      | N=11 (2,2/2,2,3,4) | 4.90      | 54.94     |                                                                                      |                                                                                                                                         | 4.5        |

IMPORTANT: This is a basic log auto-generated from AGS data held by the National Geoscience Data Centre (NGDC) and does not necessarily include all of the information supplied in the original AGS file. If you wish to deposit AGS files to the NGDC please see [www.bgs.ac.uk/services/ngdc](http://www.bgs.ac.uk/services/ngdc). Generated 20-11-2023 at 15:53. BGS Reference 2021120911501018337

## Borehole Log

BH14

Page 2 of 2

Project Name: M27 Junction 8 Project No: 16957

Borehole ID: BH14

Location: M27 Junction 8, Burseldon, Southampton SO31 Co-ords (British National Grid): 447894 - 111037 Level: 59.84

Hole Type: CP Logged By: Dates: -

Client: Interserve Construction Contractor: Project Engineer: Tom Rees-Blanchard

Plant Used: SPT Hammer Serial No:

| Well | Water | Samples   |      | Result             | Depth (m) | Level (m) | Legend | Stratum Description                                                                                                       | Depth<br>m |
|------|-------|-----------|------|--------------------|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------|------------|
|      |       | Depth (m) | Type |                    |           |           |        |                                                                                                                           |            |
|      |       |           |      | N=15 (2,2/3,3,4,5) |           |           |        | Stiff light grey becoming brownish grey slightly silty CLAY Frequent fine laminations at light grey LONDON CLAY FORMATION | 5.5        |
|      |       |           |      |                    |           |           |        |                                                                                                                           | 6.0        |
|      |       |           |      |                    |           |           |        |                                                                                                                           | 6.5        |
|      |       |           |      |                    |           |           |        |                                                                                                                           | 7.0        |
|      |       |           |      |                    |           |           |        |                                                                                                                           | 7.5        |
|      |       |           |      | N=19 (1,3/4,5,5,5) |           |           |        |                                                                                                                           | 8.0        |
|      |       |           |      |                    |           |           |        |                                                                                                                           | 8.5        |
|      |       |           |      |                    |           |           |        |                                                                                                                           | 9.0        |
|      |       |           |      |                    |           |           |        |                                                                                                                           | 9.5        |
|      |       |           |      | N=21 (2,3/5,5,5,6) | 10.00     | 49.84     |        |                                                                                                                           |            |

IMPORTANT: This is a basic log auto-generated from AGS data held by the National Geoscience Data Centre (NGDC) and does not necessarily include all of the information supplied in the original AGS file. If you wish to deposit AGS files to the NGDC please see [www.bgs.ac.uk/services/ngdc](http://www.bgs.ac.uk/services/ngdc). Generated 20-11-2023 at 15:53. BGS Reference 2021120911501018337



## GENERAL REMARKS

No rootlets encountered. Drilled using Dando 2000 with a Rig efficiency of 62%

## **APPENDIX B**

### **Exploratory Hole Logs**





[www.gesl.net](http://www.gesl.net)

Borehole No.

**WS01**

Sheet 1 of 1

Project Name: West End Road

|             |
|-------------|
| Project No. |
| GE22135     |

Co-ords: 447973E - 111112N

| Hole Type | WLS |
|-----------|-----|
|-----------|-----|

Location: Bursledon, Hampshire

|        |       |
|--------|-------|
| Level: | 64.04 |
|--------|-------|

Scale  
1:25

Client: Wates Developments Ltd

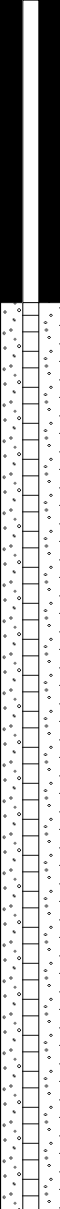
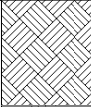
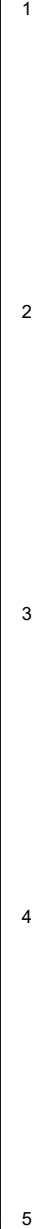
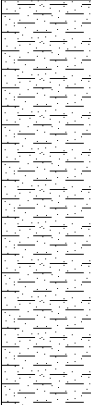
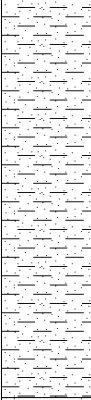
Dates: 22/11/2023

Logged By  
WP



Status



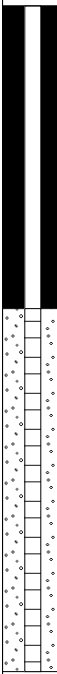
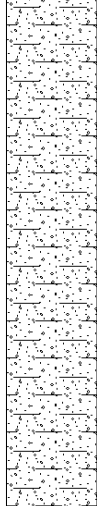
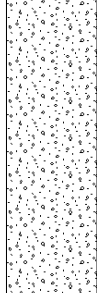
|  <div> Unit 7, Danworth Farm<br/> Hurstpierpoint<br/> BN6 9GL<br/> <a href="http://www.gesl.net">www.gesl.net</a> </div> |                                                                                     |                             | <div>Borehole Log</div> |                                                                                                           |                            |           | Borehole No.<br><b>WS02</b><br>Sheet 1 of 1                                         |                                                                                                                                                                    |                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|-----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Project Name: West End Road                                                                                                                                                                              |                                                                                     |                             | Project No.<br>GE22135  |                                                                                                           | Co-ords: 447903E - 111041N |           | Hole Type<br>WLS                                                                    |                                                                                                                                                                    |                                                                                      |
| Location: Bursledon, Hampshire                                                                                                                                                                           |                                                                                     |                             |                         |                                                                                                           | Level: 60.00               |           | Scale<br>1:25                                                                       |                                                                                                                                                                    |                                                                                      |
| Client: Wates Developments Ltd                                                                                                                                                                           |                                                                                     |                             |                         |                                                                                                           | Dates: 21/11/2023          |           | Logged By<br>WP                                                                     |                                                                                                                                                                    |                                                                                      |
| Well                                                                                                                                                                                                     | Water Strikes                                                                       | Sample and In Situ Testing  |                         |                                                                                                           | Depth (m)                  | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | Depth (m)                   | Type                    | Results                                                                                                   |                            |           |                                                                                     |                                                                                                                                                                    |                                                                                      |
|                                                                                                                        |  | 0.20                        | ES                      | N=10 (2,2/3,3,2,2)                                                                                        | 0.35                       | 59.65     |    | Grass overlying dark brown slightly clayey, slightly gravelly slightly sandy SILT. Sand is fine. Gravel is fine subrounded flint. Frequent 1-2mm rootlets. TOPSOIL |  |
|                                                                                                                                                                                                          |                                                                                     | 0.50                        | ES                      |                                                                                                           |                            |           |                                                                                     |                                                                                   |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 0.70                        | D                       |                                                                                                           |                            |           |   |                                                                                                                                                                    |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 1.00<br>1.00                | D<br>S                  |                                                                                                           |                            |           |                                                                                     | N=12 (2,2/3,3,3,3)                                                                                                                                                 |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 1.50                        | D                       |                                                                                                           |                            |           |                                                                                     |                                                                                                                                                                    |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 2.00<br>2.00                | D<br>S                  |                                                                                                           |                            |           |                                                                                     |                                                                                                                                                                    |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 2.50                        | D                       |                                                                                                           |                            |           |                                                                                     |                                                                                                                                                                    |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 3.00                        | S                       | N=11 (1,2/3,3,2,3)                                                                                        | 3.00                       | 56.00     |  | End of Borehole at 4.00m                                                                                                                                           |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 3.50                        | D                       | N=9 (2,2/2,2,3,2)                                                                                         | 4.00                       |           |                                                                                     |                                                                                                                                                                    |                                                                                      |
|                                                                                                                                                                                                          |                                                                                     | 4.00                        | S                       |                                                                                                           |                            |           |                                                                                     |                                                                                                                                                                    |                                                                                      |
| Dynamic Sampling Run Details                                                                                                                                                                             |                                                                                     | Water Strike Details (mbgl) |                         | Remarks                                                                                                   |                            |           |                                                                                     |                                                                                                                                                                    |                                                                                      |
| Depth Top                                                                                                                                                                                                | Depth Base                                                                          | Diameter                    | Depth Strike            |                                                                                                           |                            |           |                                                                                     |                                                                                                                                                                    | Rose To                                                                              |
|                                                                                                                                                                                                          |                                                                                     |                             | 3.00                    |                                                                                                           |                            |           |                                                                                     |                                                                                                                                                                    | 2.78                                                                                 |
|                                                                                                                                                                                                          |                                                                                     |                             |                         | <div>  Status </div> |                            |           |                                                                                     |                                                                                                                                                                    |                                                                                      |



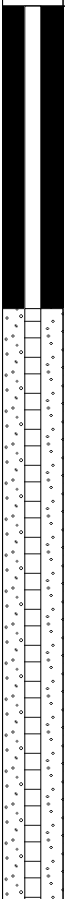
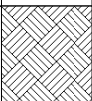
|  <div> Unit 7, Danworth Farm<br/> Hurstpierpoint<br/> BN6 9GL<br/> <a href="http://www.gesl.net">www.gesl.net</a> </div> |                                                                                                              |                             |              | <div>Borehole Log</div>  |                                                                                                           |                            |                                                                                   | Borehole No.<br><b>WS05</b><br>Sheet 1 of 1                                                                                                               |                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------|--------------|--------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Project Name: West End Road                                                                                                                                                                              |                                                                                                              |                             |              | Project No.<br>GE22135   |                                                                                                           | Co-ords: 447781E - 111119N |                                                                                   | Hole Type<br>WLS                                                                                                                                          |                                                                               |
| Location: Bursledon, Hampshire                                                                                                                                                                           |                                                                                                              |                             |              |                          |                                                                                                           | Level: 57.21               |                                                                                   | Scale<br>1:25                                                                                                                                             |                                                                               |
| Client: Wates Developments Ltd                                                                                                                                                                           |                                                                                                              |                             |              |                          |                                                                                                           | Dates: 22/11/2023          |                                                                                   | Logged By<br>WP                                                                                                                                           |                                                                               |
| Well                                                                                                                                                                                                     | Water Strikes                                                                                                | Sample and In Situ Testing  |              |                          | Depth (m)                                                                                                 | Level (m)                  | Legend                                                                            | Stratum Description                                                                                                                                       |                                                                               |
|                                                                                                                                                                                                          |                                                                                                              | Depth (m)                   | Type         | Results                  |                                                                                                           |                            |                                                                                   |                                                                                                                                                           |                                                                               |
| <div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div>                                                                                             | <div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> | 0.10                        | ES           |                          |                                                                                                           |                            |  | Grass overlying dark brown slightly sandy clayey gravelly SILT. Sand is fine. Gravel is fine to medium subangular flint. Frequent 1-2mm rootlets. TOPSOIL | <div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> </div> |
|                                                                                                                                                                                                          |                                                                                                              |                             |              |                          | 0.30                                                                                                      | 56.91                      |  | Soft brown slightly sandy gravelly CLAY. Sand is fine. Gravel is fine to medium subangular flint. Occasional 1-2mm rootlets. RIVER TERRACE DEPOSITS       |                                                                               |
|                                                                                                                                                                                                          |                                                                                                              | 0.50                        | ES           |                          | 0.60                                                                                                      | 56.61                      |  | Orangish brown sandy clayey GRAVEL. Sand is fine. Gravel is fine to coarse subangular flint. RIVER TERRACE DEPOSITS                                       |                                                                               |
|                                                                                                                                                                                                          |                                                                                                              | 0.70                        | D            |                          | 0.80                                                                                                      | 56.41                      |  | Firm sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse subangular flint. RIVER TERRACE DEPOSITS                                                 |                                                                               |
|                                                                                                                                                                                                          |                                                                                                              | 1.00                        | D            | N=15 (2,3/3,4,4,4)       | 1.10                                                                                                      | 56.11                      |  | Very dense orangish brown sandy clayey GRAVEL. Sand is fine. Gravel is fine to coarse subangular flint. RIVER TERRACE DEPOSITS                            |                                                                               |
|                                                                                                                                                                                                          |                                                                                                              | 1.00                        | S            |                          |                                                                                                           |                            |                                                                                   |                                                                                                                                                           |                                                                               |
|                                                                                                                                                                                                          |                                                                                                              | 1.20                        | D            |                          |                                                                                                           |                            |                                                                                   |                                                                                                                                                           |                                                                               |
|                                                                                                                                                                                                          |                                                                                                              | 1.50                        | S            | N=67 (13,13/19,17,16,15) | 1.60                                                                                                      | 55.61                      | End of Borehole at 1.60m                                                          |                                                                                                                                                           |                                                                               |
| Dynamic Sampling Run Details                                                                                                                                                                             |                                                                                                              | Water Strike Details (mbgl) |              | Remarks                  |                                                                                                           |                            |                                                                                   |                                                                                                                                                           |                                                                               |
| Depth Top                                                                                                                                                                                                | Depth Base                                                                                                   | Diameter                    | Depth Strike |                          |                                                                                                           |                            |                                                                                   |                                                                                                                                                           | Rose To                                                                       |
|                                                                                                                                                                                                          |                                                                                                              |                             | 0.45         |                          |                                                                                                           |                            |                                                                                   |                                                                                                                                                           | 0.45                                                                          |
|                                                                                                                                                                                                          |                                                                                                              |                             |              |                          | <div>  Status </div> |                            |                                                                                   |                                                                                                                                                           |                                                                               |



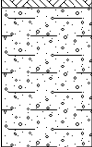
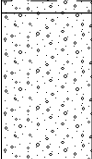
|                                                                                                                                                     |  |  |                       |  |                            |  |                                             |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------|--|----------------------------|--|---------------------------------------------|--|
|  Unit 7, Danworth Farm<br>Hurstpierpoint<br>BN6 9GL<br>www.gesl.net |  |  | <h1>Borehole Log</h1> |  |                            |  | Borehole No.<br><b>WS06</b><br>Sheet 1 of 1 |  |
| Project Name: West End Road                                                                                                                         |  |  | Project No. GE22135   |  | Co-ords: 447828E - 111066N |  | Hole Type<br>WLS                            |  |
| Location: Bursledon, Hampshire                                                                                                                      |  |  |                       |  | Level: 57.83               |  | Scale<br>1:25                               |  |
| Client: Wates Developments Ltd                                                                                                                      |  |  |                       |  | Dates: 21/11/2023          |  | Logged By<br>WP                             |  |

| Well                                                                               | Water Strikes                                                                     | Sample and In Situ Testing |      |                    | Depth (m) | Level (m)          | Legend                                                                                                                                                                               | Stratum Description |                                                                                                                                                                                                                                                     |   |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------|------|--------------------|-----------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                                                                                    |                                                                                   | Depth (m)                  | Type | Results            |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
|  |  | 0.10                       | ES   | N=11 (2,2/3,2,3,3) | 0.30      | 57.53              |  Grass overlying dark brown slightly sandy slightly gravelly SILT. Frequent 1-2mm rootlets. TOPSOIL | 1                   |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   | 0.50                       | D    |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   | 0.80                       | ES   |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   | 1.00                       | D    |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   | 1.00                       | S    |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   |                            |      | 1.50               | D         | N=14 (2,2/3,4,3,4) | 2.00                                                                                                                                                                                 | 55.83               |  Firm orangish brown and grey mottled slightly gravelly very sandy CLAY becoming slightly gravelly clayey SAND. RIVER TERRACE DEPOSITS                            | 2 |
|                                                                                    |                                                                                   | 2.00                       | D    |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   | 2.00                       | S    |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   |                            |      | 2.50               | D         | N=14 (2,2/3,4,3,4) | 3.00                                                                                                                                                                                 | 54.83               |  Medium dense orangish brown to brown slightly clayey SAND and GRAVEL. Sand is fine to medium. Gravel is fine to medium subangular flint. RIVER TERRACE DEPOSITS | 3 |
|                                                                                    |                                                                                   | 3.00                       | D    |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
| 3.00                                                                               | S                                                                                 |                            |      |                    |           |                    |                                                                                                                                                                                      |                     |                                                                                                                                                                                                                                                     |   |
| End of Borehole at 3.00m                                                           |                                                                                   |                            |      |                    |           |                    |                                                                                                                                                                                      | 4                   |                                                                                                                                                                                                                                                     |   |
|                                                                                    |                                                                                   |                            |      |                    |           |                    |                                                                                                                                                                                      | 5                   |                                                                                                                                                                                                                                                     |   |

|                              |            |          |                             |         |                                                                              |                                                                                                 |
|------------------------------|------------|----------|-----------------------------|---------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Dynamic Sampling Run Details |            |          | Water Strike Details (mbgl) |         | Remarks<br>Repeated backfilled of hole to 1.8m bgl once drilled go 3.0m bgl. | <br>Status |
| Depth Top                    | Depth Base | Diameter | Depth Strike                | Rose To |                                                                              |                                                                                                 |
|                              |            |          | 0.50                        | 0.50    |                                                                              |                                                                                                 |

|  <div> Unit 7, Danworth Farm<br/> Hurstpierpoint<br/> BN6 9GL<br/> <a href="http://www.gesl.net">www.gesl.net</a> </div> |                              |                            |                             | <div>Borehole Log</div>  |                                         |                            |                                                                                     | Borehole No.<br><b>WS07</b><br>Sheet 1 of 1                                                                                                 |                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------|-----------------------------|--------------------------|-----------------------------------------|----------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Project Name: West End Road                                                                                                                                                                              |                              |                            |                             | Project No.<br>GE22135   |                                         | Co-ords: 447841E - 111119N |                                                                                     | Hole Type<br>WLS                                                                                                                            |                                                                                      |
| Location: Bursledon, Hampshire                                                                                                                                                                           |                              |                            |                             |                          |                                         | Level: 59.22               |                                                                                     | Scale<br>1:25                                                                                                                               |                                                                                      |
| Client: Wates Developments Ltd                                                                                                                                                                           |                              |                            |                             |                          |                                         | Dates: 22/11/2023          |                                                                                     | Logged By<br>WP                                                                                                                             |                                                                                      |
| Well                                                                                                                                                                                                     | Water Strikes                | Sample and In Situ Testing |                             |                          | Depth (m)                               | Level (m)                  | Legend                                                                              | Stratum Description                                                                                                                         |                                                                                      |
|                                                                                                                                                                                                          |                              | Depth (m)                  | Type                        | Results                  |                                         |                            |                                                                                     |                                                                                                                                             |                                                                                      |
|                                                                                                                        |                              | 0.10                       | ES                          |                          |                                         |                            |    | Grass overlying dark brown slightly sandy slightly clayey SILT. Sand is fine. Frequent 1-2mm rootlets. TOPSOIL                              |  |
|                                                                                                                                                                                                          |                              | 0.40                       | D                           |                          | 0.35                                    | 58.87                      |    | Dark greyish brown slightly clayey sandy GRAVEL. RIVER TERRACE DEPOSITS                                                                     |                                                                                      |
|                                                                                                                                                                                                          |                              |                            |                             |                          | 0.50                                    | 58.72                      |    | Orangish brown very gravelly CLAY. Gravel is fine to coarse subangular flint. RIVER TERRACE DEPOSITS                                        |                                                                                      |
|                                                                                                                                                                                                          |                              | 0.80                       | ES                          | N=19 (2,3/4,5,5,5)       |                                         |                            |    | Medium dense orangish brown slightly gravelly clayey SAND. Sand is fine. Gravel is fine subrounded flint. RIVER TERRACE DEPOSITS            |                                                                                      |
|                                                                                                                                                                                                          |                              | 0.90                       | D                           |                          |                                         |                            |                                                                                     |                                                                                                                                             |                                                                                      |
|                                                                                                                                                                                                          |                              | 1.00                       | S                           |                          | 1.00                                    | 58.22                      |    | Dense orangish gravelly SAND. Sand is fine. Gravel is fine to medium subrounded to subangular flint. RIVER TERRACE DEPOSITS                 |                                                                                      |
|                                                                                                                                                                                                          |                              | 1.20                       | D                           |                          | 1.30                                    | 57.92                      |    | Orangish brown very clayey GRAVEL. Gravel is fine to coarse subangular flint. RIVER TERRACE DEPOSITS                                        |                                                                                      |
|                                                                                                                                                                                                          |                              | 1.50                       | D                           |                          |                                         |                            |                                                                                     |                                                                                                                                             |                                                                                      |
|                                                                                                                                                                                                          |                              | 2.00                       | D                           | N=26 (3,5/7,7,6,6)       | 1.90                                    | 57.32                      |    | Very dense light greyish brown gravelly SAND. Sand is fine. Gravel is fine to medium subrounded to subangular flint. RIVER TERRACE DEPOSITS |                                                                                      |
|                                                                                                                                                                                                          |                              | 2.00                       | S                           |                          |                                         |                            |                                                                                     |                                                                                                                                             |                                                                                      |
|                                                                                                                                                                                                          |                              | 2.50                       | D                           |                          |                                         |                            |                                                                                     |                                                                                                                                             |                                                                                      |
|                                                                                                                                                                                                          |                              | 2.50                       | S                           | N=64 (12,13/14,17,18,15) | 2.70                                    | 56.52                      |   | Orangish gravelly SAND. Sand is fine. Gravel is fine to medium subrounded to subangular flint. RIVER TERRACE DEPOSITS                       |                                                                                      |
|                                                                                                                                                                                                          |                              | 2.90                       | D                           |                          | 3.00                                    | 56.22                      |  | Orangish gravelly SAND. Sand is fine. Gravel is fine to medium subrounded to subangular flint. RIVER TERRACE DEPOSITS                       |                                                                                      |
|                                                                                                                                                                                                          |                              | 3.50                       | D                           |                          | 3.50                                    | 55.72                      |                                                                                     | End of Borehole at 3.50m                                                                                                                    |                                                                                      |
|                                                                                                                                                                                                          | Dynamic Sampling Run Details |                            | Water Strike Details (mbgl) |                          | Remarks                                 |                            |                                                                                     |                                                                                                                                             |                                                                                      |
| Depth Top                                                                                                                                                                                                | Depth Base                   | Diameter                   | Depth Strike                | Rose To                  | Repeated backfilling of hole beyond 3m. |                            |                                                                                     |                                                                                                                                             |                                                                                      |
|                                                                                                                                                                                                          |                              |                            | 2.00                        | 0.65                     |                                         |                            |                                                                                     |                                                                                                                                             |                                                                                      |
| <div>  Status </div>                                                                                                |                              |                            |                             |                          |                                         |                            |                                                                                     |                                                                                                                                             |                                                                                      |

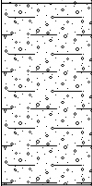
|                                                                                                                                                     |  |  |                       |  |                            |  |                                             |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------|--|----------------------------|--|---------------------------------------------|--|
|  Unit 7, Danworth Farm<br>Hurstpierpoint<br>BN6 9GL<br>www.gesl.net |  |  | <h1>Borehole Log</h1> |  |                            |  | Borehole No.<br><b>WS08</b><br>Sheet 1 of 1 |  |
| Project Name: West End Road                                                                                                                         |  |  | Project No. GE22135   |  | Co-ords: 447732E - 111164N |  | Hole Type<br>WLS                            |  |
| Location: Bursledon, Hampshire                                                                                                                      |  |  |                       |  | Level: 56.21               |  | Scale<br>1:25                               |  |
| Client: Wates Developments Ltd                                                                                                                      |  |  |                       |  | Dates: 22/11/2023          |  | Logged By<br>WP                             |  |

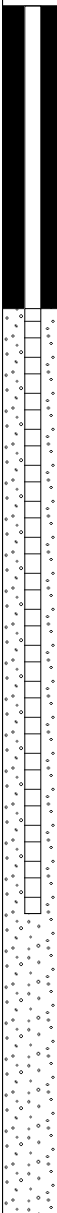
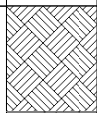
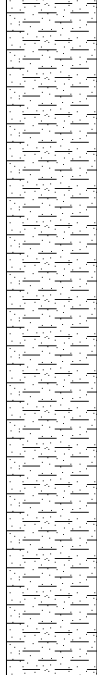
| Well                                                                              | Water Strikes | Sample and In Situ Testing |                          |                    | Depth (m)                | Level (m) | Legend                                                                                                                                                                                                                                            | Stratum Description |  |
|-----------------------------------------------------------------------------------|---------------|----------------------------|--------------------------|--------------------|--------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--|
|                                                                                   |               | Depth (m)                  | Type                     | Results            |                          |           |                                                                                                                                                                                                                                                   |                     |  |
|  |               | 0.10                       | ES                       |                    | 0.30                     | 55.91     |  Grass overlying dark brown slightly clayey gravelly SILT. Gravel is fine to medium subangular to subrounded flint. Frequent 1-2mm rootlets.<br>TOPSOIL          | 1                   |  |
|                                                                                   |               | 0.50                       | ES                       |                    |                          |           |  Brown slightly clayey very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to medium subangular flint.<br>RIVER TERRACE DEPOSITS                           |                     |  |
|                                                                                   |               | 0.80                       |                          |                    |                          |           |  Medium dense becoming very dense orangish brown very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse subangular flint.<br>RIVER TERRACE DEPOSITS |                     |  |
|                                                                                   |               | 1.00<br>1.00               | D<br>S                   | N=25 (9,7/6,7,6,6) |                          | 54.91     |                                                                                                                                                                                                                                                   |                     |  |
|                                                                                   | 1.30          | S                          | N=63 (15,13/14,14,17,18) | 1.30               | End of Borehole at 1.30m |           |                                                                                                                                                                                                                                                   |                     |  |

|                              |            |          |                             |         |         |                                                                                                 |
|------------------------------|------------|----------|-----------------------------|---------|---------|-------------------------------------------------------------------------------------------------|
| Dynamic Sampling Run Details |            |          | Water Strike Details (mbgl) |         | Remarks | <br>Status |
| Depth Top                    | Depth Base | Diameter | Depth Strike                | Rose To |         |                                                                                                 |
|                              |            |          | 1.00                        | 0.80    |         |                                                                                                 |

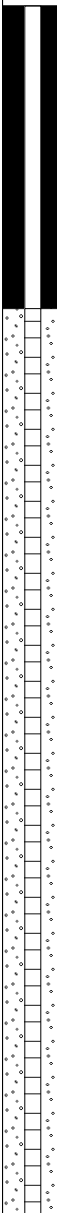
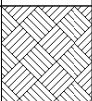
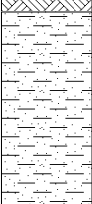
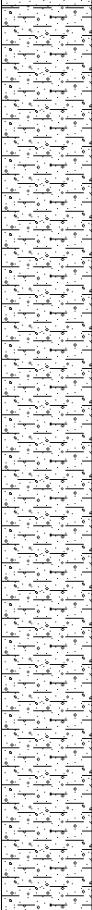
Position relocated to less boggy ground.



|  <div> Unit 7, Danworth Farm<br/> Hurstpierpoint<br/> BN6 9GL<br/> <a href="http://www.gesl.net">www.gesl.net</a> </div> |               |                             |              | <div>Borehole Log</div>     |                                    |                            |                                                                                   | Borehole No.<br><b>WS09</b><br>Sheet 1 of 1                                                                                                                    |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|--------------|-----------------------------|------------------------------------|----------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Project Name: West End Road                                                                                                                                                                              |               |                             |              | Project No.<br>GE22135      |                                    | Co-ords: 447767E - 111067N |                                                                                   | Hole Type<br>WLS                                                                                                                                               |        |
| Location: Bursledon, Hampshire                                                                                                                                                                           |               |                             |              |                             |                                    | Level: 56.02               |                                                                                   | Scale<br>1:25                                                                                                                                                  |        |
| Client: Wates Developments Ltd                                                                                                                                                                           |               |                             |              |                             |                                    | Dates: 22/11/2023          |                                                                                   | Logged By<br>WP                                                                                                                                                |        |
| Well                                                                                                                                                                                                     | Water Strikes | Sample and In Situ Testing  |              |                             | Depth (m)                          | Level (m)                  | Legend                                                                            | Stratum Description                                                                                                                                            |        |
|                                                                                                                                                                                                          |               | Depth (m)                   | Type         | Results                     |                                    |                            |                                                                                   |                                                                                                                                                                |        |
|                                                                                                                         |               | 0.10                        | ES           | N=28 (7,7/8,7,7,6)          | 0.30                               | 55.72                      |  | Grass overlying dark brown slightly clayey slightly gravelly SILT. Gravel is fine to medium subrounded flint. Frequent 1-2mm rootlets. TOPSOIL                 | 1      |
|                                                                                                                                                                                                          |               | 0.40                        | D            |                             | 0.60                               | 55.42                      |  | Soft brown sandy gravelly CLAY. Sand is fine. Gravel is fine to medium subangular flint. RIVER TERRACE DEPOSITS                                                |        |
|                                                                                                                                                                                                          |               | 0.80                        | ES           |                             | 0.90                               | 55.12                      |  | Stiff orangish brown gravelly CLAY. Gravel is fine to medium subangular flint. RIVER TERRACE DEPOSITS                                                          |        |
|                                                                                                                                                                                                          |               | 1.00<br>1.00                | D<br>S       |                             |                                    |                            |  | Medium dense becoming very dense orangish brown clayey sandy GRAVEL. Sand is fine to medium. Gravel is fine to coarse subangular flint. RIVER TERRACE DEPOSITS |        |
|                                                                                                                                                                                                          |               | 1.50<br>1.50                | D<br>S       | N=65<br>(13,12/15,11,18,21) | 1.50                               | 54.52                      |                                                                                   | End of Borehole at 1.50m                                                                                                                                       | 2      |
|                                                                                                                                                                                                          |               |                             |              |                             |                                    |                            |                                                                                   |                                                                                                                                                                |        |
|                                                                                                                                                                                                          |               |                             |              |                             |                                    |                            |                                                                                   |                                                                                                                                                                | 4      |
|                                                                                                                                                                                                          |               |                             |              |                             |                                    |                            |                                                                                   |                                                                                                                                                                | 5      |
| Dynamic Sampling Run Details                                                                                                                                                                             |               | Water Strike Details (mbgl) |              | Remarks                     |                                    |                            |                                                                                   |                                                                                                                                                                |        |
| Depth Top                                                                                                                                                                                                | Depth Base    | Diameter                    | Depth Strike | Rose To                     | Refusal on dense soils af 1.5m bgl |                            |                                                                                   |                                                                                                                                                                |        |
|                                                                                                                                                                                                          |               |                             |              |                             |                                    |                            |                                                                                   |                                                                                                                                                                |        |
|                                                                                                                     |               |                             |              |                             |                                    |                            |                                                                                   |                                                                                                                                                                | Status |

|  <div> Unit 7, Danworth Farm<br/> Hurstpierpoint<br/> BN6 9GL<br/> <a href="http://www.gesl.net">www.gesl.net</a> </div> |                              |                            |                             | <div>Borehole Log</div> |                                                                                                                |                                                                                                 |                                                                                   | Borehole No.<br><b>WS10</b><br>Sheet 1 of 1                                                                                           |                                                                                      |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------|-----------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------|
| Project Name: West End Road                                                                                                                                                                              |                              |                            |                             | Project No.<br>GE22135  |                                                                                                                | Co-ords: 447901E - 111139N                                                                      |                                                                                   | Hole Type<br>WLS                                                                                                                      |                                                                                      |      |
| Location: Bursledon, Hampshire                                                                                                                                                                           |                              |                            |                             |                         |                                                                                                                | Level: 61.80                                                                                    |                                                                                   | Scale<br>1:25                                                                                                                         |                                                                                      |      |
| Client: Wates Developments Ltd                                                                                                                                                                           |                              |                            |                             |                         |                                                                                                                | Dates: 21/11/2023                                                                               |                                                                                   | Logged By<br>WP                                                                                                                       |                                                                                      |      |
| Well                                                                                                                                                                                                     | Water Strikes                | Sample and In Situ Testing |                             |                         | Depth (m)                                                                                                      | Level (m)                                                                                       | Legend                                                                            | Stratum Description                                                                                                                   |                                                                                      |      |
|                                                                                                                                                                                                          |                              | Depth (m)                  | Type                        | Results                 |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
|                                                                                                                        |                              | 0.10                       | ES                          |                         | 0.35                                                                                                           | 61.45                                                                                           |  | Grass overlying dark brown slightly gravelly clayey SILT. Gravel is fine to medium subrounded flint. Frequent 1-2mm rootlets. TOPSOIL |  |      |
|                                                                                                                                                                                                          | 0.50<br>0.50                 | D<br>ES                    |                             |                         |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      | 0.70 |
|                                                                                                                                                                                                          | 1.00<br>1.00                 | D<br>S                     | N=14 (2,3/3,3,4,4)          |                         |                                                                                                                | 3.00                                                                                            | 58.80                                                                             |                                                     |                                                                                      |      |
|                                                                                                                                                                                                          | 1.50<br>1.50                 | D<br>S                     | N=5 (1,1/1,2,1,1)           |                         |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
|                                                                                                                                                                                                          | 2.00                         | D                          |                             |                         |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
|                                                                                                                                                                                                          | 2.50<br>2.50                 | D<br>S                     | N=18 (1,2/3,4,6,5)          |                         |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
|                                                                                                                                                                                                          | 3.00<br>3.00                 | D<br>S                     | N=11 (2,2/3,3,2,3)          |                         |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
|                                                                                                                                                                                                          | End of Borehole at 4.00m     |                            |                             |                         |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      | 4    |
|                                                                                                                                                                                                          |                              |                            |                             |                         |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      | 5    |
|                                                                                                                                                                                                          | Dynamic Sampling Run Details |                            | Water Strike Details (mbgl) |                         | Remarks                                                                                                        |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
| Depth Top                                                                                                                                                                                                | Depth Base                   | Diameter                   | Depth Strike                | Rose To                 |                                                                                                                |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
|                                                                                                                                                                                                          |                              |                            |                             |                         | Frequent backfilling from upper Sand strata. Unable to progress past 3.0m bgl due to backfilling and progress. |                                                                                                 |                                                                                   |                                                                                                                                       |                                                                                      |      |
|                                                                                                                                                                                                          |                              |                            |                             |                         |                                                                                                                | <br>Status |                                                                                   |                                                                                                                                       |                                                                                      |      |

|                                                                                                                                                     |  |  |                       |  |                            |                                             |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------|--|----------------------------|---------------------------------------------|------------------|
|  Unit 7, Danworth Farm<br>Hurstpierpoint<br>BN6 9GL<br>www.gesl.net |  |  | <h1>Borehole Log</h1> |  |                            | Borehole No.<br><b>WS11</b><br>Sheet 1 of 1 |                  |
| Project Name: West End Road                                                                                                                         |  |  | Project No. GE22135   |  | Co-ords: 447966E - 111182N |                                             | Hole Type<br>WLS |
| Location: Bursledon, Hampshire                                                                                                                      |  |  |                       |  | Level: 65.53               |                                             | Scale<br>1:25    |
| Client: Wates Developments Ltd                                                                                                                      |  |  |                       |  | Dates: 21/11/2023          |                                             | Logged By<br>WP  |

| Well                                                                               | Water Strikes | Sample and In Situ Testing |      |                    | Depth (m) | Level (m) | Legend                                                                             | Stratum Description                                                                                                                                      |                                                                                      |                                                                                   |
|------------------------------------------------------------------------------------|---------------|----------------------------|------|--------------------|-----------|-----------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                                                                    |               | Depth (m)                  | Type | Results            |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|  |               | 0.20                       | ES   |                    | 0.35      | 65.18     |   | Grass overlying dark brown slightly sandy clayey SILT. Sand is fine. Frequent 1-2mm rootlets. TOPSOIL                                                    |  |                                                                                   |
|                                                                                    |               | 0.50                       | D    |                    |           |           |                                                                                    |                                                                         |                                                                                      | Firm orangish brown and greyish brown slightly sandy CLAY. RIVER TERRACE DEPOSITS |
|                                                                                    |               | 0.80                       | ES   |                    |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|                                                                                    |               | 1.00                       | S    | N=16 (2,2/3,4,4,5) | 1.00      | 64.53     |  | Firm to very stiff orangish brown and greyish brown sandy gravelly CLAY. Sand is fine. Gravel is fine to medium subrounded flint. RIVER TERRACE DEPOSITS |                                                                                      | 1                                                                                 |
|                                                                                    |               | 1.20                       | D    |                    |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|                                                                                    |               | 1.50                       | D    |                    |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|                                                                                    |               | 2.00                       | D    |                    |           |           |                                                                                    |                                                                                                                                                          |                                                                                      | 2                                                                                 |
|                                                                                    |               | 2.00                       | S    | N=19 (3,3/4,4,5,6) |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|                                                                                    |               | 2.50                       | D    |                    |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|                                                                                    |               | 3.00                       | D    |                    |           |           |                                                                                    |                                                                                                                                                          |                                                                                      | 3                                                                                 |
|                                                                                    |               | 3.00                       | S    | N=20 (4,4/5,4,5,6) |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|                                                                                    |               |                            |      |                    |           |           |                                                                                    |                                                                                                                                                          |                                                                                      |                                                                                   |
|                                                                                    |               | 4.00                       | D    |                    | 4.00      | 61.53     |                                                                                    | 4                                                                                                                                                        |                                                                                      |                                                                                   |
|                                                                                    |               | 4.00                       | S    | N=25 (5,6/5,5,7,8) |           |           |                                                                                    |                                                                                                                                                          | End of Borehole at 4.00m                                                             |                                                                                   |
|                                                                                    |               |                            |      |                    |           |           |                                                                                    |                                                                                                                                                          | 5                                                                                    |                                                                                   |

|                              |            |          |                             |         |         |
|------------------------------|------------|----------|-----------------------------|---------|---------|
| Dynamic Sampling Run Details |            |          | Water Strike Details (mbgl) |         | Remarks |
| Depth Top                    | Depth Base | Diameter | Depth Strike                | Rose To |         |
|                              |            |          | 3.47                        | 2.60    |         |

  
 Status



## **APPENDIX C**

### **Preliminary Groundwater/Ground Gas Monitoring Assessment**



**Project:** West End Road  
**Ref:** GE22135  
**Client:** Wates Developments Ltd

| Location | Date       | Time (sec) | CH <sub>4</sub> (%) | CO <sub>2</sub> (%) | O <sub>2</sub> (%) | Flow (l/hr) | VOC (ppm) | Pressure (mb) | GWL (m bgl) | GSV/Qhgs        |                 | Characteristic Situation |                 | Flow |
|----------|------------|------------|---------------------|---------------------|--------------------|-------------|-----------|---------------|-------------|-----------------|-----------------|--------------------------|-----------------|------|
|          |            |            |                     |                     |                    |             |           |               |             | CH <sub>4</sub> | CO <sub>2</sub> | BS8485 & C665            |                 |      |
|          |            |            |                     |                     |                    |             |           |               |             |                 |                 | CH <sub>4</sub>          | CO <sub>2</sub> |      |
| WS02     | 27/11/2023 | 0          | 0.0                 | 0.0                 | 19.9               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS02     | 27/11/2023 | 10         | 0.0                 | 1.0                 | 19.7               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS02     | 27/11/2023 | 20         | 0.0                 | 1.4                 | 19.2               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS02     | 27/11/2023 | 30         | 0.0                 | 1.5                 | 19.1               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS02     | 27/11/2023 | 60         | 0.0                 | 1.5                 | 18.9               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS02     | 27/11/2023 | 90         | 0.0                 | 1.5                 | 18.8               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS02     | 27/11/2023 | 120        | 0.0                 | 1.5                 | 18.8               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS02     | 27/11/2023 | 180        | 0.0                 | 1.4                 | 18.9               | 0.0         | 0.0       | 987           | 1.54        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 0          | 0.0                 | 0.0                 | 20.0               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 10         | 0.0                 | 2.5                 | 18.2               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 20         | 0.0                 | 3.7                 | 16.0               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 30         | 0.0                 | 3.8                 | 15.3               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 60         | 0.0                 | 3.9                 | 15.3               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 90         | 0.0                 | 3.9                 | 15.3               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 120        | 0.0                 | 3.9                 | 15.3               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS03     | 27/11/2023 | 180        | 0.0                 | 3.9                 | 15.3               | 0.0         | 0.0       | 986           | 0.98        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS04     | 27/11/2023 | 0          |                     |                     |                    |             |           |               | 0.00        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS04     | 27/11/2023 | 10         |                     |                     |                    | -           | -         | -             | 0.00        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS04     | 27/11/2023 | 20         |                     |                     |                    | -           | -         | -             | 0.00        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS04     | 27/11/2023 | 30         |                     |                     |                    | -           | -         | -             | 0.00        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS04     | 27/11/2023 | 60         |                     |                     |                    | -           | -         | -             | 0.00        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS04     | 27/11/2023 | 90         |                     |                     |                    | -           | -         | -             | 0.00        | 0.000           | 0.000           | CS1                      | CS1             | NO   |
| WS04     | 27/11/2023 | 120        |                     |                     |                    | -           | -         | -             | 0.00        | 0.000           | 0.000           | CS1                      | CS1             | NO   |

|      |            |     |     |     |      |     |     |     |      |       |       |     |     |    |
|------|------------|-----|-----|-----|------|-----|-----|-----|------|-------|-------|-----|-----|----|
| WS04 | 27/11/2023 | 180 |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 0   |     |     |      |     |     |     | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 10  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 20  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 30  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 60  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 90  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 120 |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 | 27/11/2023 | 180 |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 0   |     |     |      |     |     |     | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 10  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 20  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 30  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 60  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 90  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 120 |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 | 27/11/2023 | 180 |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 0   |     |     |      |     |     |     | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 10  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 20  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 30  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 60  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 90  |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 120 |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 27/11/2023 | 180 |     |     |      | -   | -   | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 27/11/2023 | 0   | 0.0 | 0.1 | 19.3 | 0.0 | 0.0 | 987 | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 27/11/2023 | 10  | 0.0 | 0.5 | 20.1 | 0.0 | 0.0 | 987 | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 27/11/2023 | 20  | 0.0 | 0.3 | 20.1 | 0.0 | 0.0 | 987 | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 27/11/2023 | 30  | 0.0 | 0.2 | 20.2 | 0.0 | 0.0 | 987 | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 27/11/2023 | 60  | 0.0 | 0.1 | 20.2 | 0.0 | 0.0 | 987 | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |



|      |            |     |     |     |      |     |     |      |      |       |       |     |     |    |
|------|------------|-----|-----|-----|------|-----|-----|------|------|-------|-------|-----|-----|----|
| WS08 | 27/11/2023 | 90  | 0.0 | 0.1 | 20.2 | 0.0 | 0.0 | 987  | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 27/11/2023 | 120 | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | 987  | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 27/11/2023 | 180 | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | 987  | 0.37 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 0   |     |     |      |     |     |      | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 10  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 20  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 30  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 60  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 90  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 120 |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 27/11/2023 | 180 |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 0   | 0.0 | 1.3 | 19.6 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 10  | 0.0 | 2.8 | 17.8 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 20  | 0.0 | 3.0 | 17.4 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 30  | 0.0 | 3.0 | 17.2 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 60  | 0.0 | 3.0 | 17.0 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 90  | 0.0 | 3.1 | 16.9 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 120 | 0.0 | 3.1 | 16.9 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10 | 27/11/2023 | 180 | 0.0 | 3.1 | 16.9 | 0.0 | 0.0 | 1019 | 0.77 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 0   |     |     |      |     |     |      | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 10  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 20  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 30  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 60  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 90  |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 120 |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11 | 27/11/2023 | 180 |     |     |      | -   | -   | -    | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS01 |            | 0   |     |     |      |     |     |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS01 | -          | 10  |     |     |      | -   | -   | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS01 | -          | 20  |     |     |      | -   | -   | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |

|      |            |     |     |     |      |     |   |      |      |       |       |     |     |    |
|------|------------|-----|-----|-----|------|-----|---|------|------|-------|-------|-----|-----|----|
| WS01 | -          | 30  |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS01 | -          | 60  |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS01 | -          | 90  |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS01 | -          | 120 |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS01 | -          | 180 |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS02 | 12/12/2023 | 0   | 0.0 | 0.1 | 19.6 | 0.0 |   | 998  | 0.87 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS02 | 12/12/2023 | 10  | 0.0 | 1.9 | 18.7 | 0.0 | - | 998  | 0.87 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS02 | 12/12/2023 | 20  | 0.0 | 2.2 | 17.8 | 0.0 | - | 998  | 0.87 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS02 | 12/12/2023 | 30  | 0.0 | 2.3 | 17.7 | 0.0 | - | 998  | 0.87 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS02 | 12/12/2023 | 60  | 0.0 | 2.3 | 17.5 | 0.0 | - | 998  | 0.87 | 0.000 | 0.000 | CS1 | CS1 | NO |
|      |            |     | 0.0 | 0.7 | 20.0 | 0.0 | - | 1011 | 0.19 | 0.000 | 0.000 | CS1 | CS1 | NO |
|      |            |     |     |     |      |     | - |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
|      |            |     |     |     |      |     | - |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 | 12/12/2023 | 0   | 0.0 | 0.7 | 20.0 | 0.0 |   | 1011 | 0.19 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 |            |     |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 |            |     |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 |            |     |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 |            |     |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 |            |     |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 |            |     |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS03 |            |     |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            | 0   |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            |     |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            |     |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            |     |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            |     |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            |     |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            |     |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS05 |            |     |     |     |      | -   | - | -    | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 |            | 0   |     |     |      |     |   |      |      | 0.000 | 0.000 | CS1 | CS1 | NO |

|      |            |     |     |     |      |     |   |     |      |       |       |     |     |    |
|------|------------|-----|-----|-----|------|-----|---|-----|------|-------|-------|-----|-----|----|
| WS06 |            |     |     |     |      | -   | - | -   | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 |            |     |     |     |      | -   | - | -   | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 |            |     |     |     |      | -   | - | -   | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 |            |     |     |     |      | -   | - | -   | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 |            |     |     |     |      | -   | - | -   | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 |            |     |     |     |      | -   | - | -   | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS06 |            |     |     |     |      | -   | - | -   | -    | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 0   | 0.0 | 0.0 | 0.0  | 0.0 |   | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 10  |     |     |      | 0.0 | - | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 20  |     |     |      | 0.0 | - | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 30  |     |     |      | 0.0 | - | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 60  |     |     |      | 0.0 | - | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 90  |     |     |      | 0.0 | - | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 120 |     |     |      | 0.0 | - | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS07 | 12/12/2023 | 180 |     |     |      | 0.0 | - | 994 | 0.05 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 0   | 0.0 | 1.0 | 17.9 | 0.0 |   | 983 | 0.19 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 10  | 0.0 | 0.6 | 18.7 | 0.0 | - | 983 | 0.19 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 20  |     |     |      |     | - |     |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 30  |     |     |      |     | - |     |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 60  |     |     |      |     | - |     |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 90  |     |     |      |     | - |     |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 120 |     |     |      |     | - |     |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS08 | 12/12/2023 | 180 |     |     |      |     | - |     |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 12/12/2023 | 0   |     |     |      |     |   |     | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 12/12/2023 | 10  |     |     |      | -   | - | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 12/12/2023 | 20  |     |     |      | -   | - | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 12/12/2023 | 30  |     |     |      | -   | - | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 12/12/2023 | 60  |     |     |      | -   | - | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 12/12/2023 | 90  |     |     |      | -   | - | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS09 | 12/12/2023 | 120 |     |     |      | -   | - | -   | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |



|                   |            |     |     |     |      |     |     |        |      |       |       |     |     |    |
|-------------------|------------|-----|-----|-----|------|-----|-----|--------|------|-------|-------|-----|-----|----|
| WS09              | 12/12/2023 | 180 |     |     |      | -   | -   | -      | 0.00 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10              | 12/12/2023 | 0   | 0.0 | 0.0 | 19.7 | 0.0 |     | 989    | 0.46 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10              | 12/12/2023 | 10  | 0.0 | 0.0 | 20.4 | 0.0 | -   | 989    | 0.46 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10              | 12/12/2023 | 20  | 0.0 | 0.1 | 20.3 | 0.0 | -   | 989    | 0.46 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10              | 12/12/2023 | 30  | 0.0 | 0.0 | 20.4 | 0.0 | -   | 989    | 0.46 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10              | 12/12/2023 | 60  | 0.0 | 0.0 | 20.4 | 0.0 | -   | 989    | 0.46 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS10              | 12/12/2023 | 90  | 0.0 | 0.0 | 20.3 | 0.0 | -   | 989    | 0.46 | 0.000 | 0.000 | CS1 | CS1 | NO |
|                   |            |     |     |     |      |     | -   |        |      | 0.000 | 0.000 | CS1 | CS1 | NO |
|                   |            |     |     |     |      |     | -   |        |      | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 0   |     |     |      |     |     |        | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 10  |     |     |      | -   | -   | -      | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 20  |     |     |      | -   | -   | -      | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 30  |     |     |      | -   | -   | -      | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 60  |     |     |      | -   | -   | -      | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 90  |     |     |      | -   | -   | -      | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 120 |     |     |      | -   | -   | -      | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| WS11              | 12/12/2023 | 180 |     |     |      | -   | -   | -      | 0.10 | 0.000 | 0.000 | CS1 | CS1 | NO |
| Max values        |            |     | 0.0 | 3.9 | 20.4 | 0.0 | 0.0 | 1019.0 | 1.5  | 0.000 | 0.000 | CS1 | CS1 | NO |
| Min Vaules        |            |     | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 983.0  | 0.0  | 0.000 | 0.000 | CS1 | CS1 | NO |
| BH Flow LoD check |            |     | 0.0 | 3.9 | 20.4 | 0.1 | -   | -      | -    | 0.000 | 0.004 | CS1 | CS1 | NO |

[illegible]















## **APPENDIX D**

### **Geotechnical Laboratory Results**





# LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 34517

Borehole/Pit No. WS01

Site Name West End Road

Sample No. 2

Project No. GE22135

Client

GESL

Depth Top m 1.50

Soil Description

Orangish brown and light grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel

Depth Base m -

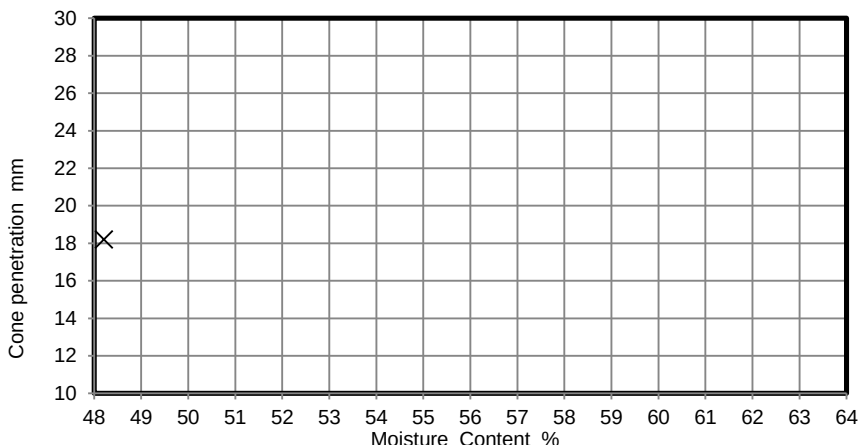
Sample Type D

Samples received 04/12/2023

Schedules received 23/11/2023

Project Started 05/12/2023

Date Tested 14/12/2023



NATURAL MOISTURE CONTENT

21

%

% PASSING 425µm SIEVE

99

%

LIQUID LIMIT

50

%

PLASTIC LIMIT

20

%

PLASTICITY INDEX

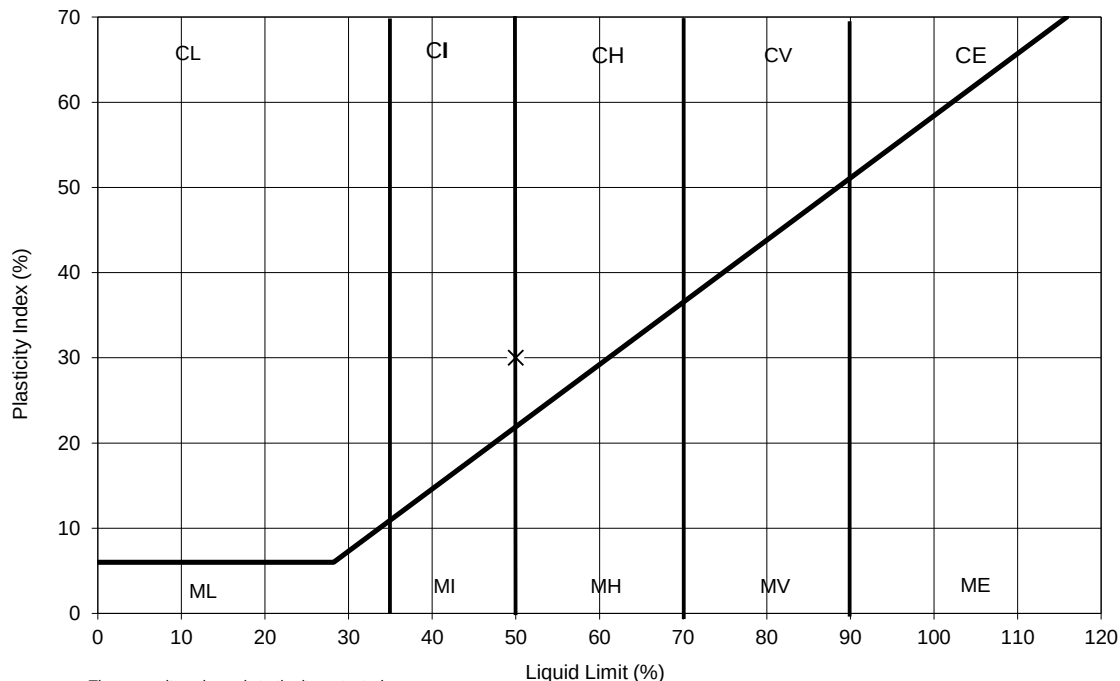
30

%

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

## PLASTICITY INDEX



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### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU

Tel: 01923 711 288 Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 18/12/2023

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

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# LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 34517

Borehole/Pit No. WS02

Site Name West End Road

Sample No. 1

Project No. GE22135

Client

GESL

Depth Top m 0.70

Soil Description

Orangish brown and light grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel

Depth Base m -

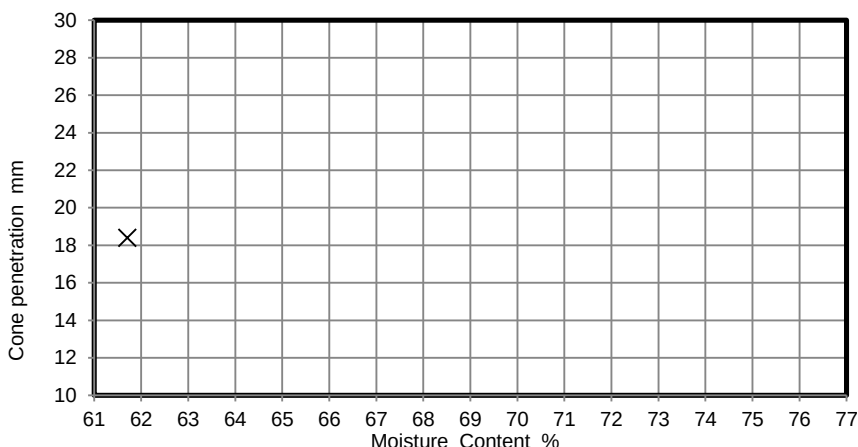
Sample Type D

Samples received 04/12/2023

Schedules received 23/11/2023

Project Started 05/12/2023

Date Tested 14/12/2023



NATURAL MOISTURE CONTENT

25

%

% PASSING 425µm SIEVE

99

%

LIQUID LIMIT

63

%

PLASTIC LIMIT

24

%

PLASTICITY INDEX

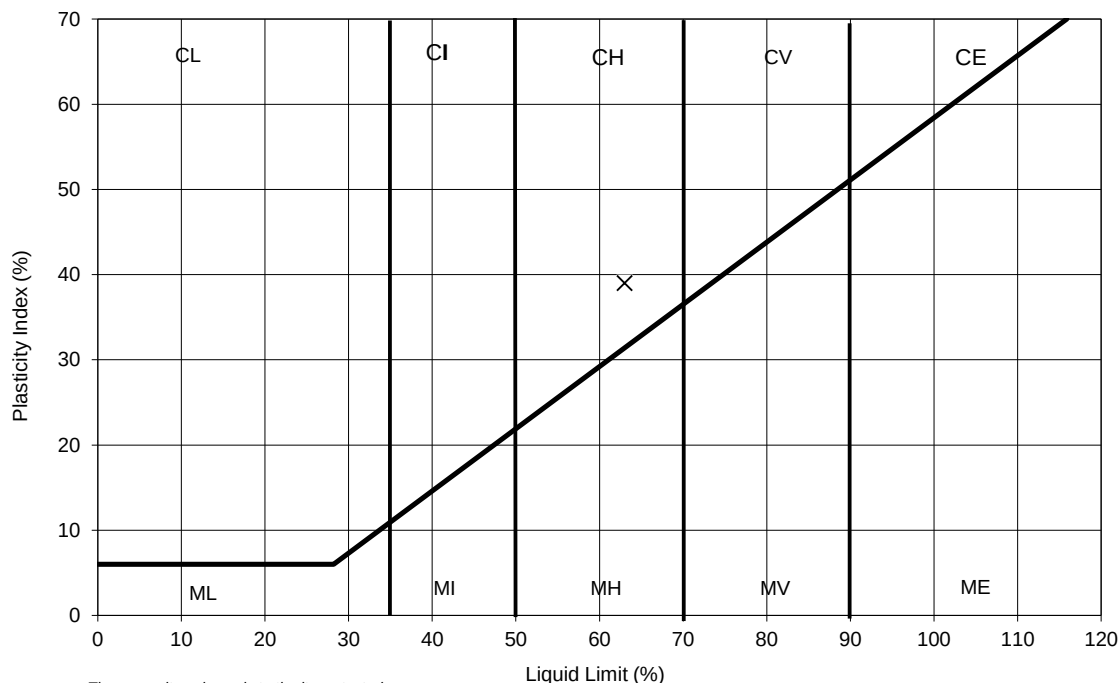
39

%

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

## PLASTICITY INDEX



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### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Date: 18/12/2023

2519

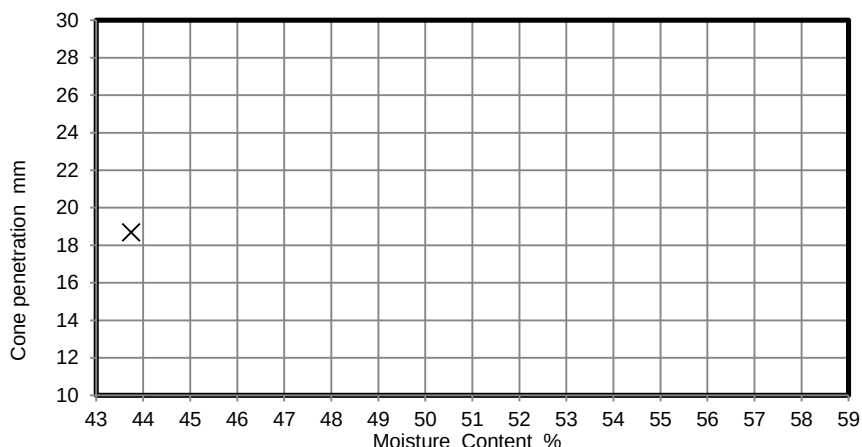
Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2



## LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

|                  |                                                                                                                       |        |      |
|------------------|-----------------------------------------------------------------------------------------------------------------------|--------|------|
| Job No.          | 34517                                                                                                                 |        |      |
|                  | Borehole/Pit No.                                                                                                      |        |      |
| Site Name        | West End Road                                                                                                         |        |      |
| Project No.      | GE22135                                                                                                               | Client | GESL |
| Soil Description | Orangish brown and light grey mottled slightly gravelly silty CLAY with sandy patches (gravel is fmc and sub-angular) |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |

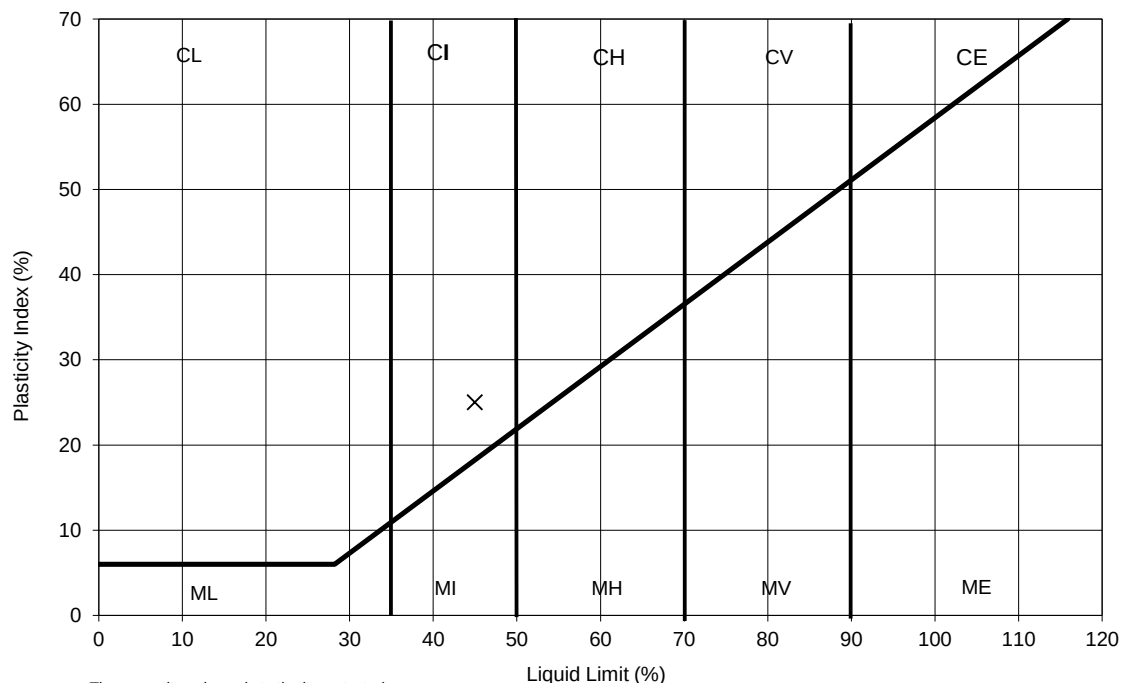


|                          |    |   |
|--------------------------|----|---|
| NATURAL MOISTURE CONTENT | 17 | % |
| % PASSING 425µm SIEVE    | 97 | % |
| LIQUID LIMIT             | 45 | % |
| PLASTIC LIMIT            | 20 | % |
| PLASTICITY INDEX         | 25 | % |

### Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

### PLASTICITY INDEX



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#### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Tel: 01923 711 288 Email: James@k4soils.com

#### Checked and Approved

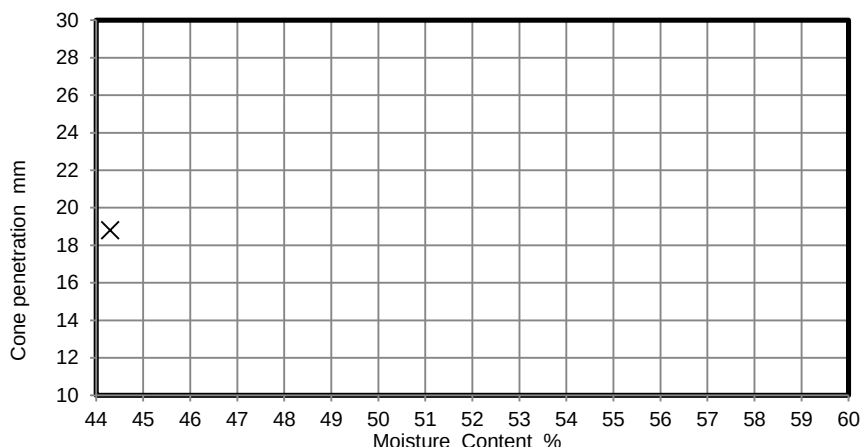
Initials: J.P

Date: 18/12/2023



## LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

|                                                                                  |                                                                                   |        |      |                    |            |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|--------------------|------------|
|  | LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX                                  |        |      | Job No.            | 34517      |
|                                                                                  |                                                                                   |        |      | Borehole/Pit No.   | WS05       |
| Site Name                                                                        | West End Road                                                                     |        |      | Sample No.         | 2          |
| Project No.                                                                      | GE22135                                                                           | Client | GESL | Depth Top m        | 1.00       |
| Soil Description                                                                 | Orangish brown slightly gravelly sandy silty CLAY (gravel is fmc and sub-angular) |        |      | Depth Base m       | -          |
|                                                                                  |                                                                                   |        |      | Sample Type        | D          |
|                                                                                  |                                                                                   |        |      | Samples received   | 04/12/2023 |
|                                                                                  |                                                                                   |        |      | Schedules received | 23/11/2023 |
|                                                                                  |                                                                                   |        |      | Project Started    | 05/12/2023 |
|                                                                                  |                                                                                   |        |      | Date Tested        | 14/12/2023 |

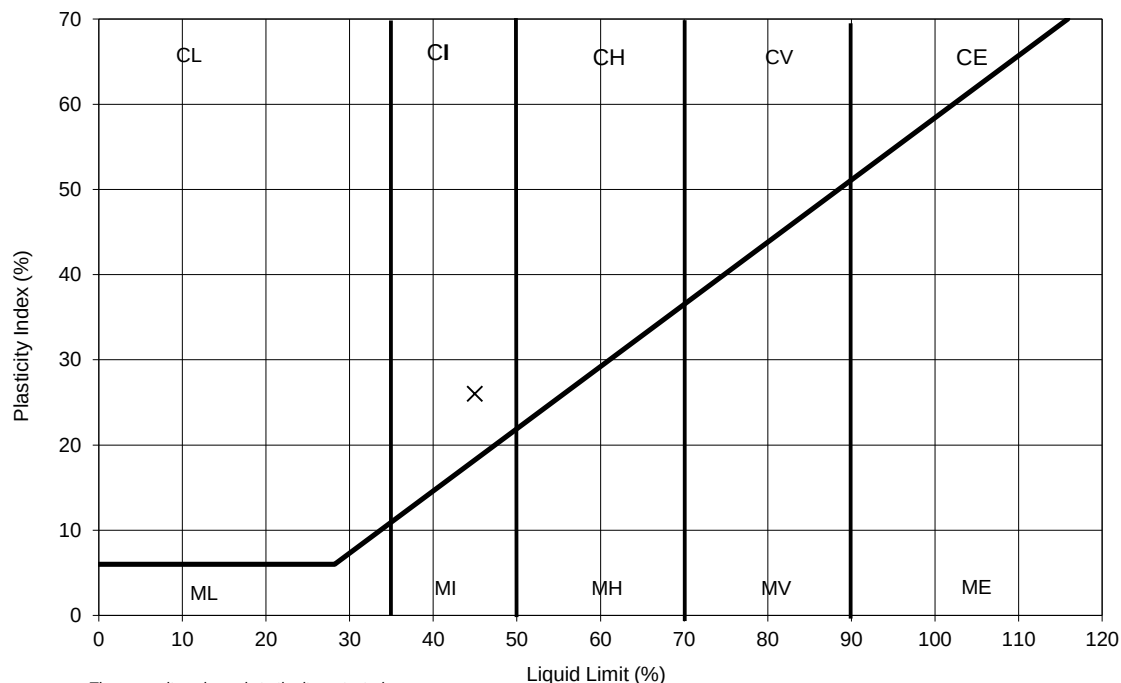


|                          |    |   |
|--------------------------|----|---|
| NATURAL MOISTURE CONTENT | 19 | % |
| % PASSING 425µm SIEVE    | 90 | % |
| LIQUID LIMIT             | 45 | % |
| PLASTIC LIMIT            | 19 | % |
| PLASTICITY INDEX         | 26 | % |

### Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

### PLASTICITY INDEX



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#### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Tel: 01923 711 288 Email: James@k4soils.com

#### Checked and Approved

Initials: J.P

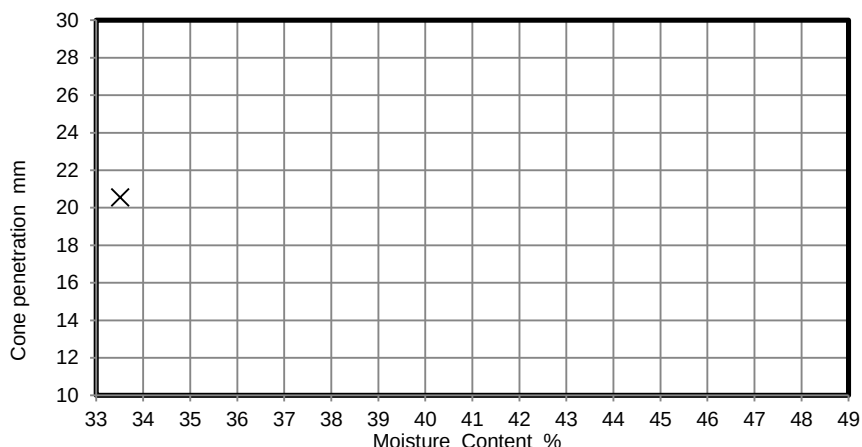
Date: 18/12/2023





## LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

|                                                                                  |                                                                                                                                |        |      |                    |            |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------|------|--------------------|------------|
|  | LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX                                                                               |        |      | Job No.            | 34517      |
|                                                                                  |                                                                                                                                |        |      | Borehole/Pit No.   | WS06       |
| Site Name                                                                        | West End Road                                                                                                                  |        |      | Sample No.         | 3          |
| Project No.                                                                      | GE22135                                                                                                                        | Client | GESL | Depth Top m        | 1.50       |
| Soil Description                                                                 | Orangish brown, light grey and dark grey mottled sandy silty CLAY with abundant sandy patches and rare fine sub-angular gravel |        |      | Depth Base m       | -          |
|                                                                                  |                                                                                                                                |        |      | Sample Type        | D          |
|                                                                                  |                                                                                                                                |        |      | Samples received   | 04/12/2023 |
|                                                                                  |                                                                                                                                |        |      | Schedules received | 23/11/2023 |
|                                                                                  |                                                                                                                                |        |      | Project Started    | 05/12/2023 |
|                                                                                  |                                                                                                                                |        |      | Date Tested        | 14/12/2023 |

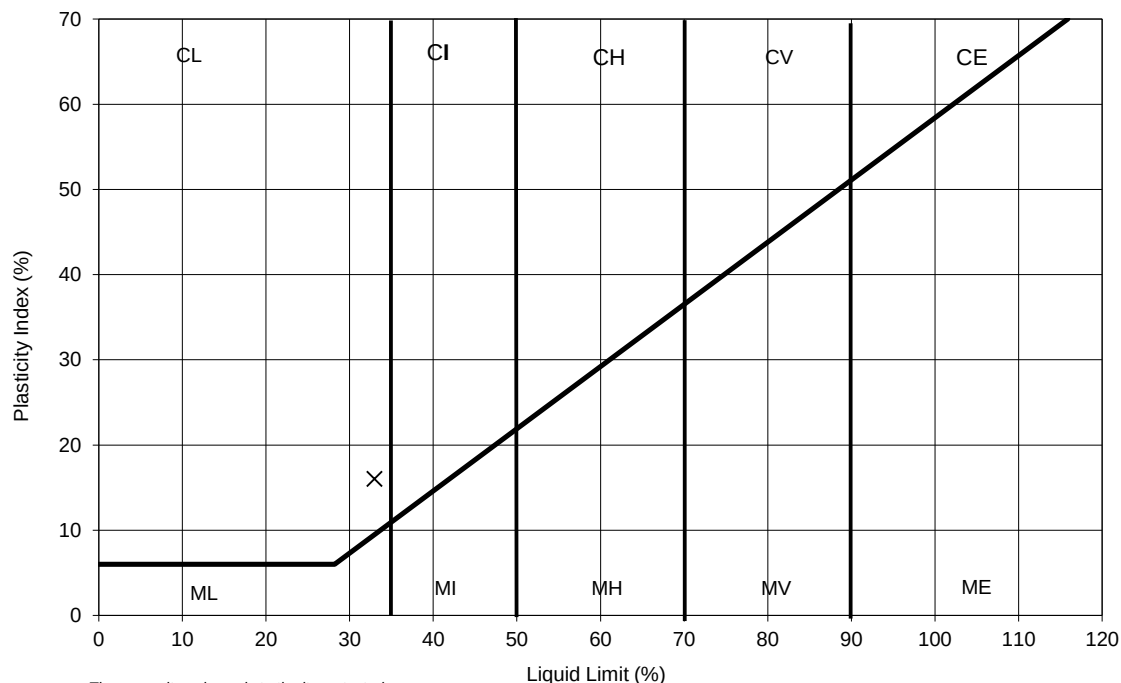


|                          |    |   |
|--------------------------|----|---|
| NATURAL MOISTURE CONTENT | 17 | % |
| % PASSING 425µm SIEVE    | 99 | % |
| LIQUID LIMIT             | 33 | % |
| PLASTIC LIMIT            | 17 | % |
| PLASTICITY INDEX         | 16 | % |

### Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

### PLASTICITY INDEX



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#### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Tel: 01923 711 288 Email: James@k4soils.com

#### Checked and Approved

Initials: J.P

Date: 18/12/2023



# LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 34517

Borehole/Pit No. WS10

Site Name West End Road

Sample No. 2

Project No. GE22135

Client

GESL

Depth Top m 1.00

Soil Description

Orangish brown and light grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel

Depth Base m -

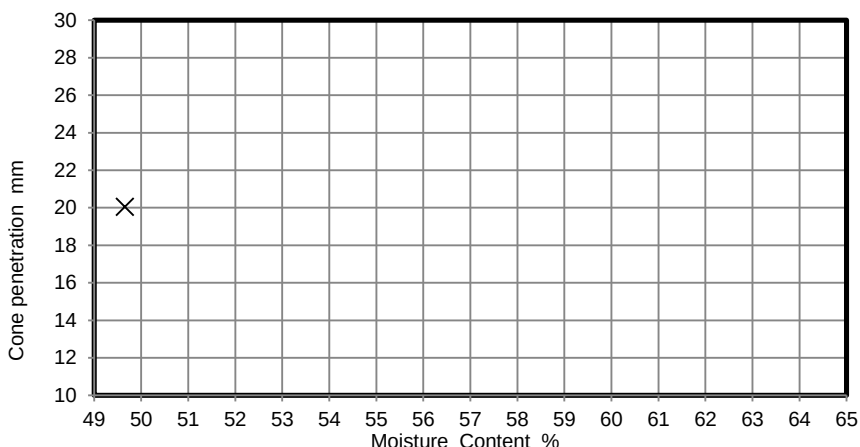
Sample Type D

Samples received 04/12/2023

Schedules received 23/11/2023

Project Started 05/12/2023

Date Tested 14/12/2023



NATURAL MOISTURE CONTENT

22

%

% PASSING 425µm SIEVE

99

%

LIQUID LIMIT

50

%

PLASTIC LIMIT

21

%

PLASTICITY INDEX

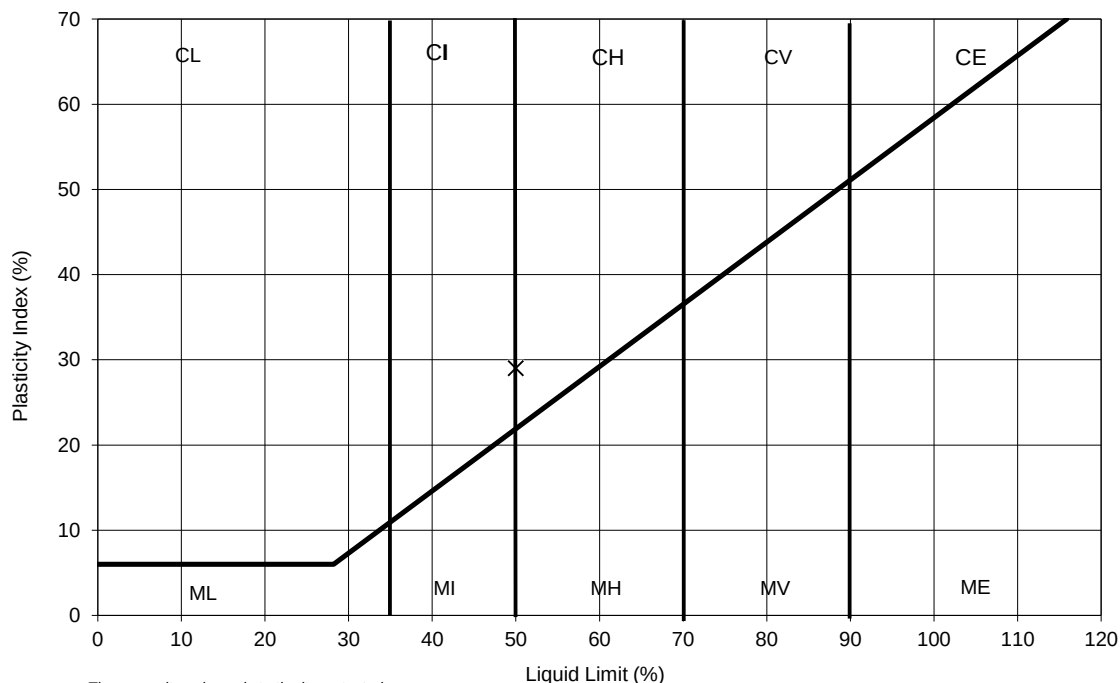
29

%

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

## PLASTICITY INDEX



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### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Tel: 01923 711 288 Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 18/12/2023

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

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# LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 34517

Borehole/Pit No. WS10

Site Name West End Road

Sample No. 4

Project No. GE22135

Client

GESL

Depth Top m 2.00

Soil Description

Orangish brown, light grey and dark grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel

Depth Base m -

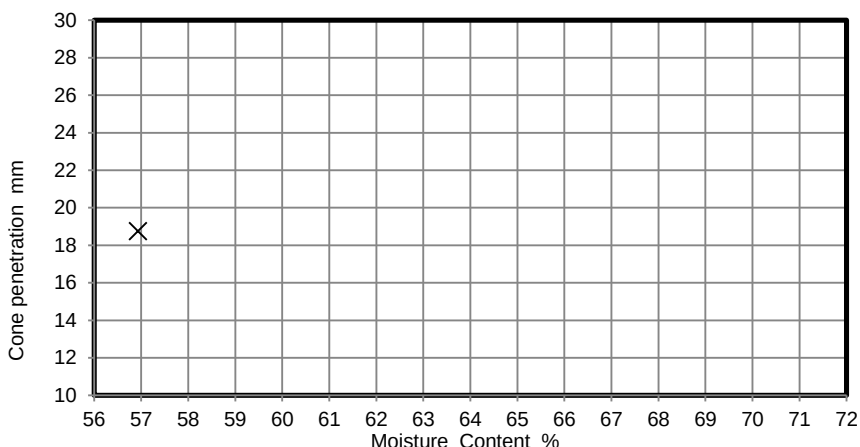
Sample Type D

Samples received 04/12/2023

Schedules received 23/11/2023

Project Started 05/12/2023

Date Tested 14/12/2023



NATURAL MOISTURE CONTENT

24

%

% PASSING 425µm SIEVE

99

%

LIQUID LIMIT

58

%

PLASTIC LIMIT

23

%

PLASTICITY INDEX

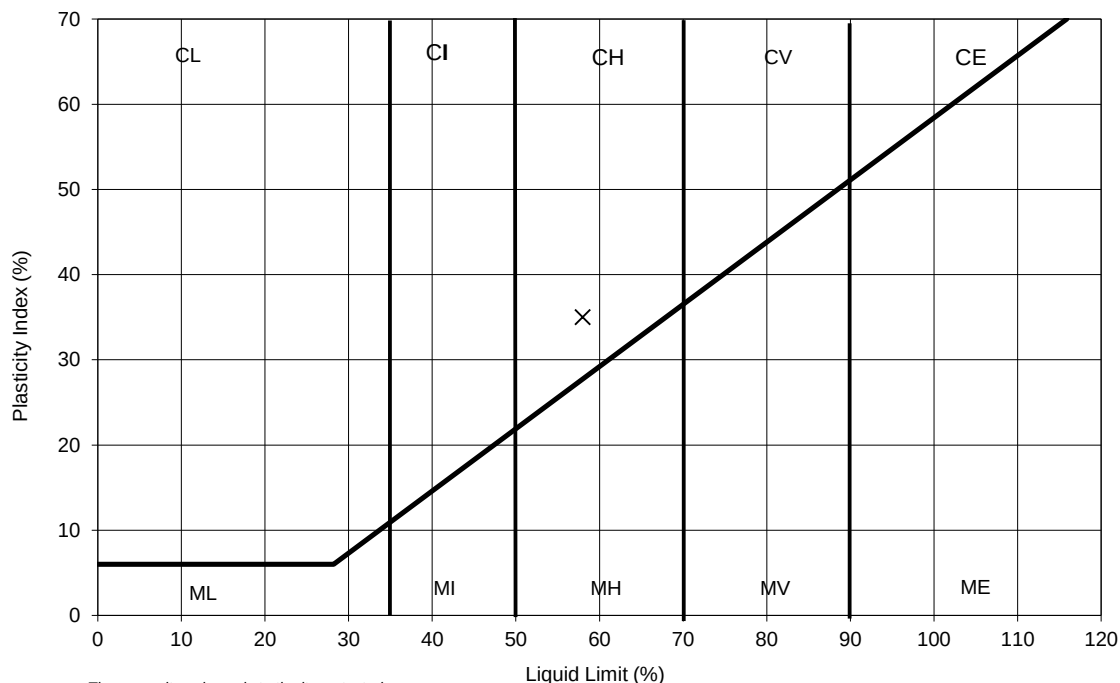
35

%

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

## PLASTICITY INDEX



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### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU

Tel: 01923 711 288 Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 18/12/2023

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

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# LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 34517

Borehole/Pit No. WS11

Site Name West End Road

Sample No. 3

Project No. GE22135

Client

GESL

Depth Top m 1.50

Soil Description

Reddish brown mottled bluish grey with dark grey stains slightly gravelly slightly sandy silty CLAY (gravel is fmc and sub-rounded)

Depth Base m -

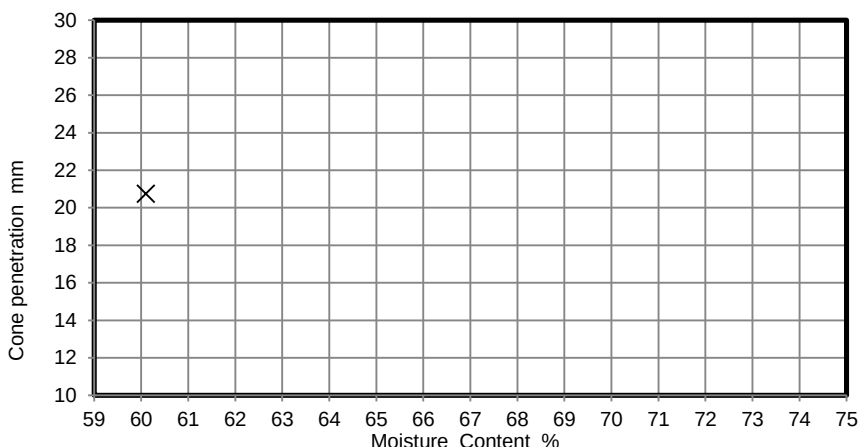
Sample Type D

Samples received 04/12/2023

Schedules received 23/11/2023

Project Started 05/12/2023

Date Tested 14/12/2023



NATURAL MOISTURE CONTENT

24

%

% PASSING 425µm SIEVE

95

%

LIQUID LIMIT

59

%

PLASTIC LIMIT

23

%

PLASTICITY INDEX

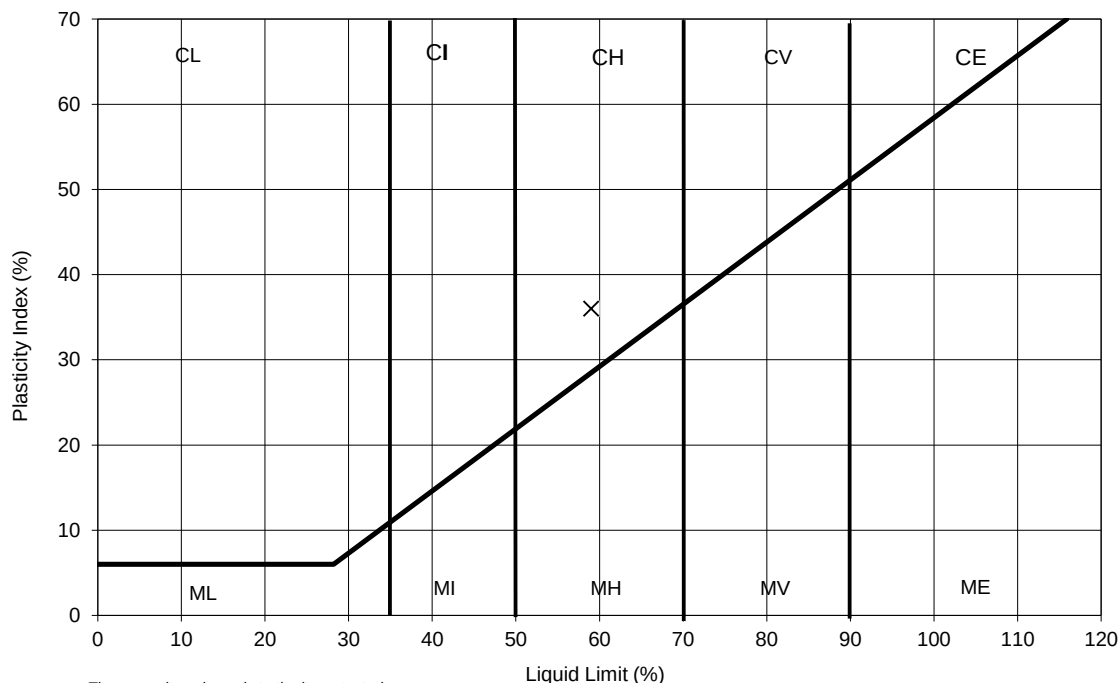
36

%

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

## PLASTICITY INDEX



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### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

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Checked and Approved

Initials: J.P

Date: 18/12/2023

2519

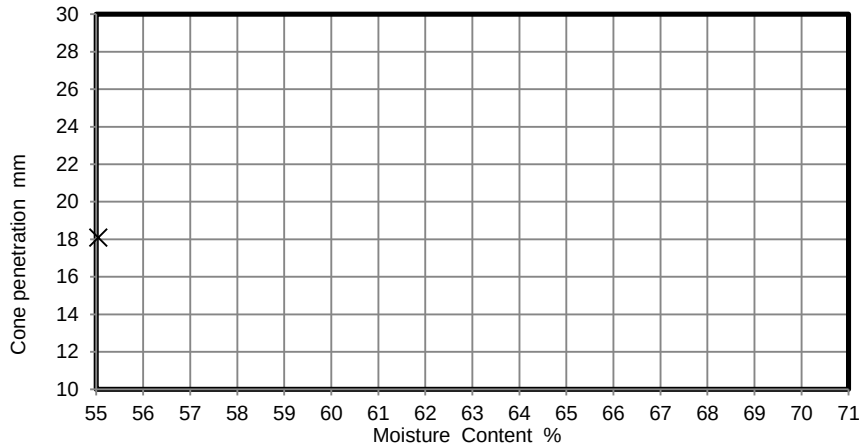
Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2



## LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

|                  |                                                                                                                       |        |      |
|------------------|-----------------------------------------------------------------------------------------------------------------------|--------|------|
| Job No.          | 34517                                                                                                                 |        |      |
|                  | Borehole/Pit No.                                                                                                      |        |      |
| Site Name        | West End Road                                                                                                         |        |      |
| Project No.      | GE22135                                                                                                               | Client | GESL |
| Soil Description | Orangish brown and light grey mottled slightly gravelly silty CLAY with sandy patches (gravel is fmc and sub-angular) |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |
|                  |                                                                                                                       |        |      |

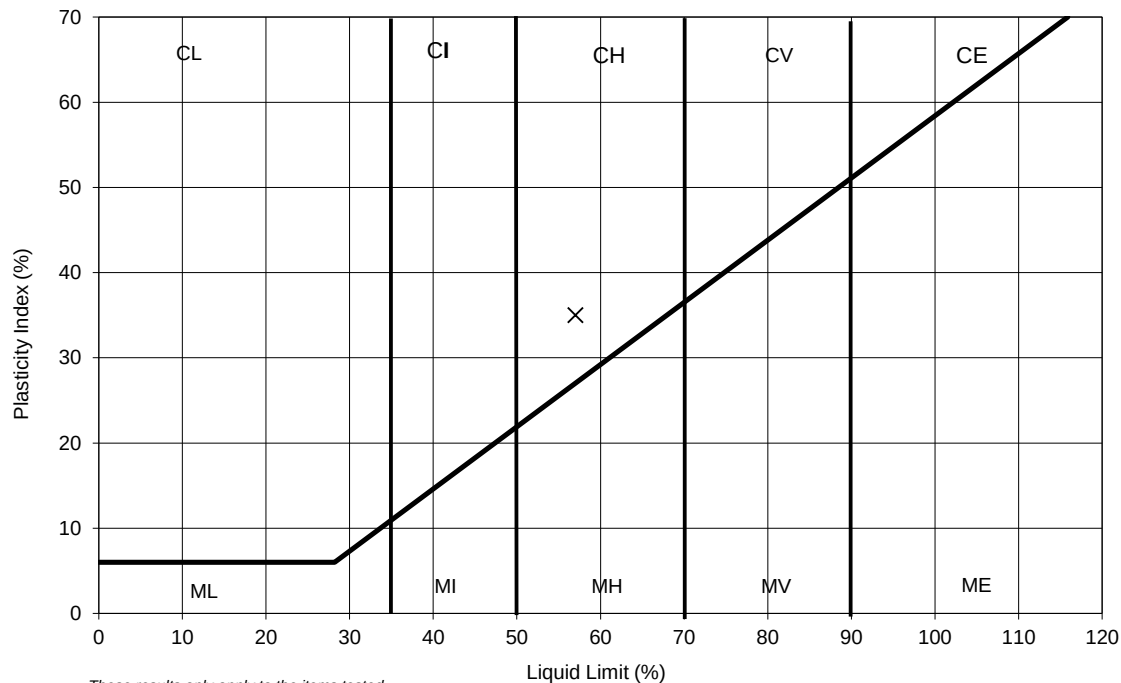


|                          |    |   |
|--------------------------|----|---|
| NATURAL MOISTURE CONTENT | 23 | % |
| % PASSING 425µm SIEVE    | 97 | % |
| LIQUID LIMIT             | 57 | % |
| PLASTIC LIMIT            | 22 | % |
| PLASTICITY INDEX         | 35 | % |

### Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

### PLASTICITY INDEX



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#### TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Tel: 01923 711 288 Email: James@k4soils.com

#### Checked and Approved

Initials: J.P

Date: 18/12/2023

|  |        | Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results |           |      |                                                                                                                                     |          |                       |                   |         |            |         |
|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------|-----------|------|-------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------|-------------------|---------|------------|---------|
| Job No.<br>34517                                                                  |        | Project Name<br>West End Road                                               |           |      |                                                                                                                                     |          |                       | Programme         |         |            |         |
|                                                                                   |        |                                                                             |           |      |                                                                                                                                     |          |                       | Samples received  |         | 04/12/2023 |         |
|                                                                                   |        |                                                                             |           |      |                                                                                                                                     |          |                       | Schedule received |         | 23/11/2023 |         |
| Project No.<br>GE22135                                                            |        | Client<br>GESL                                                              |           |      |                                                                                                                                     |          |                       | Project started   |         | 05/12/2023 |         |
|                                                                                   |        |                                                                             |           |      |                                                                                                                                     |          |                       | Testing Started   |         | 14/12/2023 |         |
| Hole No.                                                                          | Sample |                                                                             |           |      | Soil Description                                                                                                                    | NMC<br>% | Passing<br>425µm<br>% | LL<br>%           | PL<br>% | PI<br>%    | Remarks |
|                                                                                   | Ref    | Top<br>m                                                                    | Base<br>m | Type |                                                                                                                                     |          |                       |                   |         |            |         |
| WS01                                                                              | 2      | 1.50                                                                        | -         | D    | Orangish brown and light grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel                                | 21       | 99                    | 50                | 20      | 30         |         |
| WS02                                                                              | 1      | 0.70                                                                        | -         | D    | Orangish brown and light grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel                                | 25       | 99                    | 63                | 24      | 39         |         |
| WS02                                                                              | 3      | 1.50                                                                        | -         | D    | Orangish brown and light grey mottled slightly gravelly silty CLAY with sandy patches (gravel is fmc and sub-angular)               | 17       | 97                    | 45                | 20      | 25         |         |
| WS05                                                                              | 2      | 1.00                                                                        | -         | D    | Orangish brown slightly gravelly sandy silty CLAY (gravel is fmc and sub-angular)                                                   | 19       | 90                    | 45                | 19      | 26         |         |
| WS06                                                                              | 3      | 1.50                                                                        | -         | D    | Orangish brown, light grey and dark grey mottled sandy silty CLAY with abundant sandy patches and rare fine sub-angular gravel      | 17       | 99                    | 33                | 17      | 16         |         |
| WS10                                                                              | 2      | 1.00                                                                        | -         | D    | Orangish brown and light grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel                                | 22       | 99                    | 50                | 21      | 29         |         |
| WS10                                                                              | 4      | 2.00                                                                        | -         | D    | Orangish brown, light grey and dark grey mottled silty CLAY with sandy patches and rare fine sub-angular gravel                     | 24       | 99                    | 58                | 23      | 35         |         |
| WS11                                                                              | 3      | 1.50                                                                        | -         | D    | Reddish brown mottled bluish grey with dark grey stains slightly gravelly slightly sandy silty CLAY (gravel is fmc and sub-rounded) | 18       | 78                    | 59                | 23      | 36         |         |
| WS11                                                                              | 4      | 2.00                                                                        | -         | D    | Orangish brown and light grey mottled slightly gravelly silty CLAY with sandy patches (gravel is fmc and sub-angular)               | 23       | 97                    | 57                | 22      | 35         |         |
|                                                                                   |        |                                                                             |           |      |                                                                                                                                     |          |                       |                   |         |            |         |
|                                                                                   |        |                                                                             |           |      |                                                                                                                                     |          |                       |                   |         |            |         |
|                                                                                   |        |                                                                             |           |      |                                                                                                                                     |          |                       |                   |         |            |         |

|                                                                                     |                                                                                                                                                                                    |                                                                                                                                                              |                                                                                     |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | <b>Test Methods: BS1377: Part 2: 1990:</b><br>Natural Moisture Content : clause 3.2<br>Atterberg Limits: clause 4.3 and 5.0<br><i>These results only apply to the items tested</i> | <b>Test Report by K4 SOILS LABORATORY</b><br>Unit 8 Olds Close Olds Approach<br>Watford Herts WD18 9RU<br><br>Tel: 01923 711 288<br>Email: James@k4soils.com | <b>Checked and Approved</b><br><br>Initials      J.P<br><br>Date:        18/12/2023 |
|                                                                                     | NOTE: The report shall not be reproduced except in full without authority of the laboratory                                                                                        |                                                                                                                                                              |                                                                                     |
|                                                                                     | 2519                                                                                                                                                                               |                                                                                                                                                              | Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)                        |
|                                                                                     | MSF-5-R1(b)                                                                                                                                                                        |                                                                                                                                                              |                                                                                     |

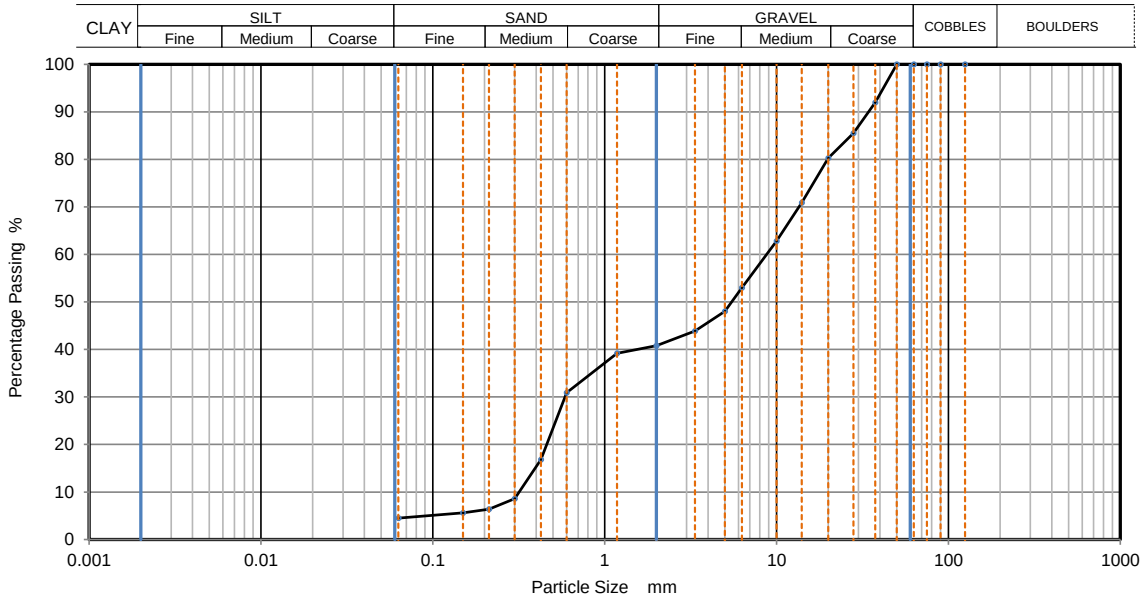




## PARTICLE SIZE DISTRIBUTION

|                                                                                   |                                                                              |        |      |                    |            |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------|------|--------------------|------------|
|  | PARTICLE SIZE DISTRIBUTION                                                   |        |      | Job Ref            | 34517      |
|                                                                                   |                                                                              |        |      | Borehole/Pit No.   | WS03       |
| Site Name                                                                         | West End Road                                                                |        |      | Sample No.         | 1          |
| Project No.                                                                       | GE22135                                                                      | Client | GESL | Depth Top          | 1.00 m     |
| Soil Description                                                                  | Grey clayey very sandy GRAVEL (gravel is fmc and sub-angular to sub-rounded) |        |      | Depth Base         | - m        |
|                                                                                   |                                                                              |        |      | Sample Type        | D          |
|                                                                                   |                                                                              |        |      | Samples received   | 04/12/2023 |
|                                                                                   |                                                                              |        |      | Schedules received | 23/11/2023 |
| Test Method                                                                       | BS1377:Part 2: 1990, clause 9.0                                              |        |      | Project started    | 05/12/2023 |
| These results only apply to the items tested                                      |                                                                              |        |      | Date tested        | 11/12/2023 |

These results only apply to the items tested



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 92        |                  |           |
| 28               | 86        |                  |           |
| 20               | 80        |                  |           |
| 14               | 71        |                  |           |
| 10               | 63        |                  |           |
| 6.3              | 53        |                  |           |
| 5                | 48        |                  |           |
| 3.35             | 44        |                  |           |
| 2                | 41        |                  |           |
| 1.18             | 39        |                  |           |
| 0.6              | 31        |                  |           |
| 0.425            | 17        |                  |           |
| 0.3              | 9         |                  |           |
| 0.212            | 6         |                  |           |
| 0.15             | 6         |                  |           |
| 0.063            | 5         |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 59.23      |
| Sand               | 36.28      |
| Fines <0.063mm     | 4.48       |

| Grading Analysis       |      |
|------------------------|------|
| D100                   | mm   |
| D60                    | mm   |
| D30                    | mm   |
| D10                    | mm   |
| Uniformity Coefficient | 27   |
| Curvature Coefficient  | 0.12 |

### Remarks

Preparation and testing in accordance with BS1377 unless noted below

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### K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

### Checked and Approved

Initials: J.P

Date: 18/12/2023

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

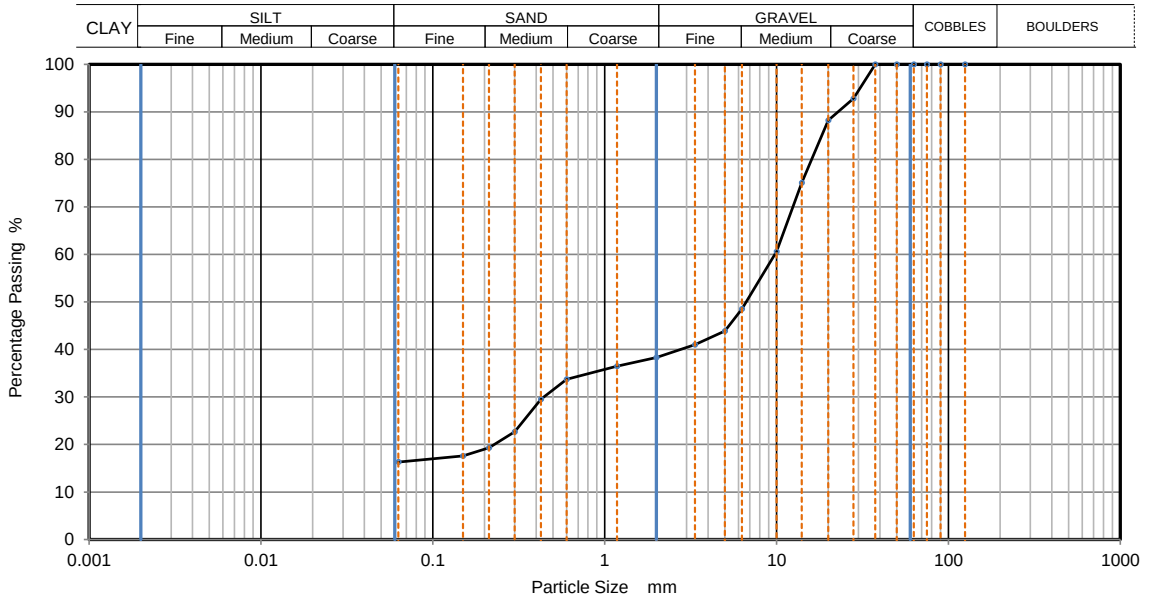
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# PARTICLE SIZE DISTRIBUTION

|                    |  |  |            |  |  |
|--------------------|--|--|------------|--|--|
| Job Ref            |  |  | 34517      |  |  |
|                    |  |  | WS03       |  |  |
| Borehole/Pit No.   |  |  | WS03       |  |  |
| Sample No.         |  |  | 2          |  |  |
| Depth Top          |  |  | 1.90 m     |  |  |
| Depth Base         |  |  | - m        |  |  |
| Sample Type        |  |  | D          |  |  |
| Samples received   |  |  | 04/12/2023 |  |  |
| Schedules received |  |  | 23/11/2023 |  |  |
| Project started    |  |  | 05/12/2023 |  |  |
| Date tested        |  |  | 11/12/2023 |  |  |

These results only apply to the items tested



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 93        |                  |           |
| 20               | 88        |                  |           |
| 14               | 75        |                  |           |
| 10               | 61        |                  |           |
| 6.3              | 49        |                  |           |
| 5                | 44        |                  |           |
| 3.35             | 41        |                  |           |
| 2                | 38        |                  |           |
| 1.18             | 37        |                  |           |
| 0.6              | 34        |                  |           |
| 0.425            | 30        |                  |           |
| 0.3              | 23        |                  |           |
| 0.212            | 19        |                  |           |
| 0.15             | 18        |                  |           |
| 0.063            | 16        |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 61.66      |
| Sand               | 22.06      |
| Fines <0.063mm     | 16.28      |

| Grading Analysis       |    |
|------------------------|----|
| D100                   | mm |
| D60                    | mm |
| D30                    | mm |
| D10                    | mm |
| Uniformity Coefficient |    |
| Curvature Coefficient  |    |

Remarks  
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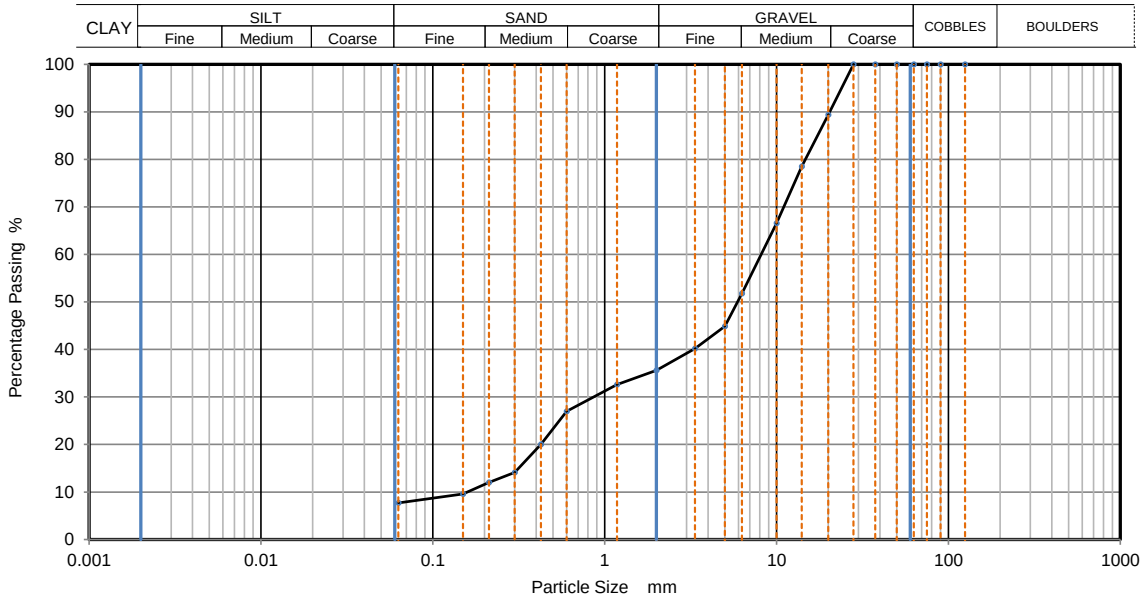
|                                                              |  |  |                      |            |
|--------------------------------------------------------------|--|--|----------------------|------------|
| <b>K4 Soils Laboratory</b>                                   |  |  | Checked and Approved |            |
| Unit 8, Olds Close, Watford, Herts, WD18 9RU                 |  |  | Initials:            | J.P        |
| Email: james@k4soils.com                                     |  |  | Date:                | 18/12/2023 |
| Tel: 01923 711288                                            |  |  | MSF-5-R3             |            |
| Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr) |  |  |                      |            |





## PARTICLE SIZE DISTRIBUTION

|                                              |  |  |                                 |        |      |
|----------------------------------------------|--|--|---------------------------------|--------|------|
| Job Ref                                      |  |  | 34517                           |        |      |
|                                              |  |  | WS05                            |        |      |
| Site Name                                    |  |  | West End Road                   |        |      |
| Project No.                                  |  |  | GE22135                         | Client | GESL |
| Soil Description                             |  |  | Depth Top                       |        |      |
|                                              |  |  | 1.20 m                          |        |      |
|                                              |  |  | Depth Base                      |        |      |
|                                              |  |  | -                               |        |      |
|                                              |  |  | Sample Type                     |        |      |
|                                              |  |  | D                               |        |      |
|                                              |  |  | Samples received                |        |      |
|                                              |  |  | 04/12/2023                      |        |      |
|                                              |  |  | Schedules received              |        |      |
|                                              |  |  | 23/11/2023                      |        |      |
| Test Method                                  |  |  | BS1377:Part 2: 1990, clause 9.0 |        |      |
| These results only apply to the items tested |  |  | Project started                 |        |      |
|                                              |  |  | 05/12/2023                      |        |      |
|                                              |  |  | Date tested                     |        |      |
|                                              |  |  | 11/12/2023                      |        |      |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 100       |                  |           |
| 20               | 89        |                  |           |
| 14               | 79        |                  |           |
| 10               | 67        |                  |           |
| 6.3              | 52        |                  |           |
| 5                | 45        |                  |           |
| 3.35             | 40        |                  |           |
| 2                | 36        |                  |           |
| 1.18             | 33        |                  |           |
| 0.6              | 27        |                  |           |
| 0.425            | 20        |                  |           |
| 0.3              | 14        |                  |           |
| 0.212            | 12        |                  |           |
| 0.15             | 10        |                  |           |
| 0.063            | 8         |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 64.37      |
| Sand               | 27.94      |
| Fines <0.063mm     | 7.69       |

| Grading Analysis       |      |
|------------------------|------|
| D100                   | mm   |
| D60                    | mm   |
| D30                    | mm   |
| D10                    | mm   |
| Uniformity Coefficient | 51   |
| Curvature Coefficient  | 0.57 |

Remarks  
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### K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

### Checked and Approved

Initials: J.P

Date: 18/12/2023

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Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

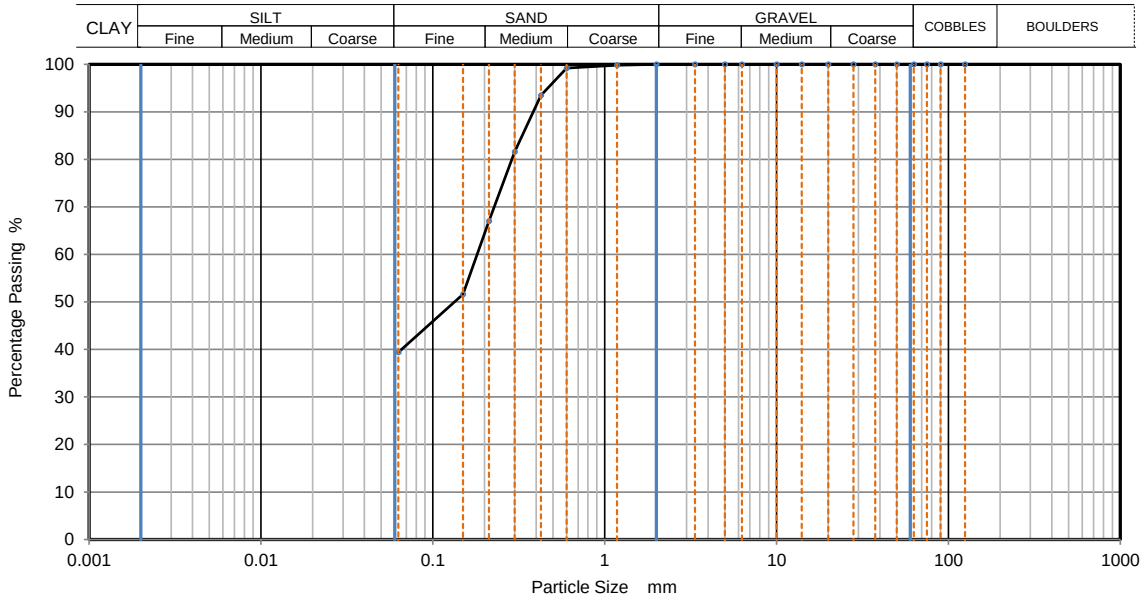
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## PARTICLE SIZE DISTRIBUTION

|                                              |                                                 |                                 |      |
|----------------------------------------------|-------------------------------------------------|---------------------------------|------|
| Job Ref                                      | 34517                                           |                                 |      |
|                                              | Borehole/Pit No.                                |                                 |      |
| Site Name                                    | West End Road                                   |                                 |      |
| Project No.                                  | GE22135                                         | Client                          | GESL |
| Soil Description                             | Orangish brown and bluish grey sandy silty CLAY |                                 |      |
|                                              |                                                 |                                 |      |
|                                              |                                                 |                                 |      |
|                                              |                                                 |                                 |      |
|                                              |                                                 |                                 |      |
| Test Method                                  |                                                 | BS1377:Part 2: 1990, clause 9.0 |      |
| These results only apply to the items tested |                                                 | Date tested                     |      |
| Job Ref                                      |                                                 | 34517                           |      |
| Borehole/Pit No.                             |                                                 | WS06                            |      |
| Sample No.                                   |                                                 | 4                               |      |
| Depth Top                                    |                                                 | 2.00 m                          |      |
| Depth Base                                   |                                                 | - m                             |      |
| Sample Type                                  |                                                 | D                               |      |
| Samples received                             |                                                 | 04/12/2023                      |      |
| Schedules received                           |                                                 | 23/11/2023                      |      |
| Project started                              |                                                 | 05/12/2023                      |      |
| Date tested                                  |                                                 | 11/12/2023                      |      |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 100       |                  |           |
| 20               | 100       |                  |           |
| 14               | 100       |                  |           |
| 10               | 100       |                  |           |
| 6.3              | 100       |                  |           |
| 5                | 100       |                  |           |
| 3.35             | 100       |                  |           |
| 2                | 100       |                  |           |
| 1.18             | 100       |                  |           |
| 0.6              | 99        |                  |           |
| 0.425            | 94        |                  |           |
| 0.3              | 82        |                  |           |
| 0.212            | 67        |                  |           |
| 0.15             | 52        |                  |           |
| 0.063            | 39        |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 0.00       |
| Sand               | 60.57      |
| Fines <0.063mm     | 39.43      |

| Grading Analysis       |    |
|------------------------|----|
| D100                   | mm |
| D60                    | mm |
| D30                    | mm |
| D10                    | mm |
| Uniformity Coefficient |    |
| Curvature Coefficient  |    |

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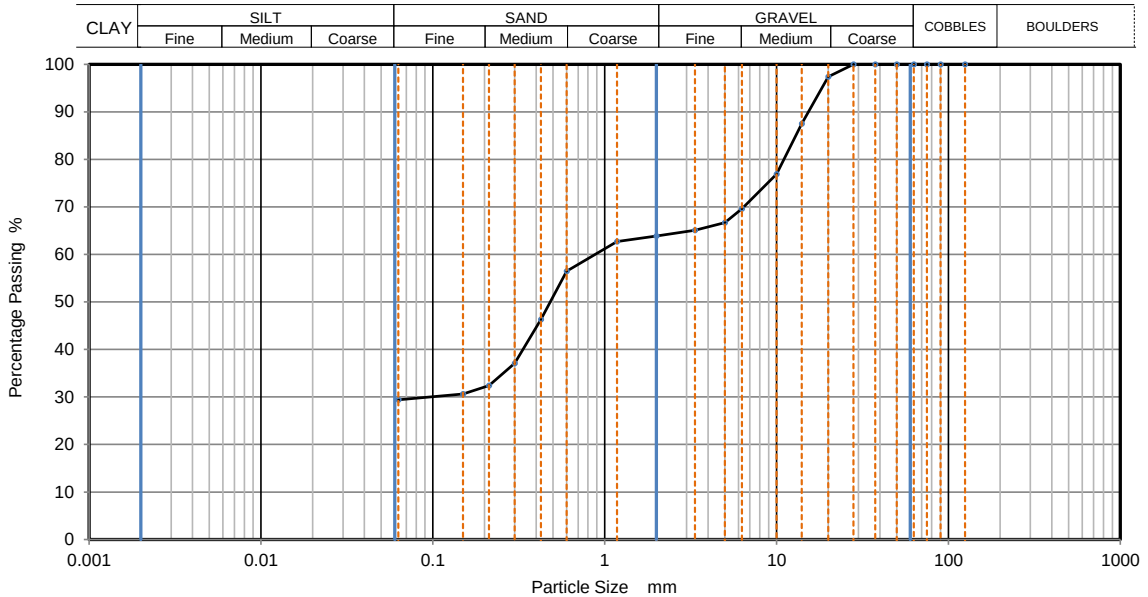
|                                                                                     |                                                              |  |                             |                   |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------|--|-----------------------------|-------------------|
|  | <b>K4 Soils Laboratory</b>                                   |  | <b>Checked and Approved</b> |                   |
|                                                                                     | <b>Unit 8, Olds Close, Watford, Herts, WD18 9RU</b>          |  | <b>Initials:</b>            | <b>J.P</b>        |
|                                                                                     | <b>Email: james@k4soils.com</b>                              |  | <b>Date:</b>                | <b>18/12/2023</b> |
|                                                                                     | <b>Tel: 01923 711288</b>                                     |  |                             |                   |
| <b>2519</b>                                                                         | Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr) |  |                             | <b>MSF-5-R3</b>   |



## PARTICLE SIZE DISTRIBUTION

|                                                                                   |                                                                                                                       |        |      |                    |            |   |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------|------|--------------------|------------|---|
|  | PARTICLE SIZE DISTRIBUTION                                                                                            |        |      | Job Ref            | 34517      |   |
|                                                                                   |                                                                                                                       |        |      | Borehole/Pit No.   | WS07       |   |
| Site Name                                                                         | West End Road                                                                                                         |        |      | Sample No.         | 2          |   |
| Project No.                                                                       | GE22135                                                                                                               | Client | GESL | Depth Top          | 0.90       | m |
| Soil Description                                                                  | Light bluish grey and orangish brown silty clayey very sandy GRAVEL<br>(gravel is fmc and sub-angular to sub-rounded) |        |      | Depth Base         | -          | m |
|                                                                                   |                                                                                                                       |        |      | Sample Type        | D          |   |
|                                                                                   |                                                                                                                       |        |      | Samples received   | 04/12/2023 |   |
|                                                                                   |                                                                                                                       |        |      | Schedules received | 23/11/2023 |   |
| Test Method                                                                       | BS1377:Part 2: 1990, clause 9.0                                                                                       |        |      | Project started    | 05/12/2023 |   |
| These results only apply to the items tested                                      |                                                                                                                       |        |      | Date tested        | 11/12/2023 |   |

These results only apply to the items tested



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 100       |                  |           |
| 20               | 97        |                  |           |
| 14               | 88        |                  |           |
| 10               | 77        |                  |           |
| 6.3              | 70        |                  |           |
| 5                | 67        |                  |           |
| 3.35             | 65        |                  |           |
| 2                | 64        |                  |           |
| 1.18             | 63        |                  |           |
| 0.6              | 57        |                  |           |
| 0.425            | 46        |                  |           |
| 0.3              | 37        |                  |           |
| 0.212            | 32        |                  |           |
| 0.15             | 31        |                  |           |
| 0.063            | 29        |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 36.10      |
| Sand               | 34.45      |
| Fines <0.063mm     | 29.45      |

| Grading Analysis       |    |
|------------------------|----|
| D100                   | mm |
| D60                    | mm |
| D30                    | mm |
| D10                    | mm |
| Uniformity Coefficient |    |
| Curvature Coefficient  |    |

### Remarks

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### K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

### Checked and Approved

Initials: J.P

Date: 18/12/2023

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Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

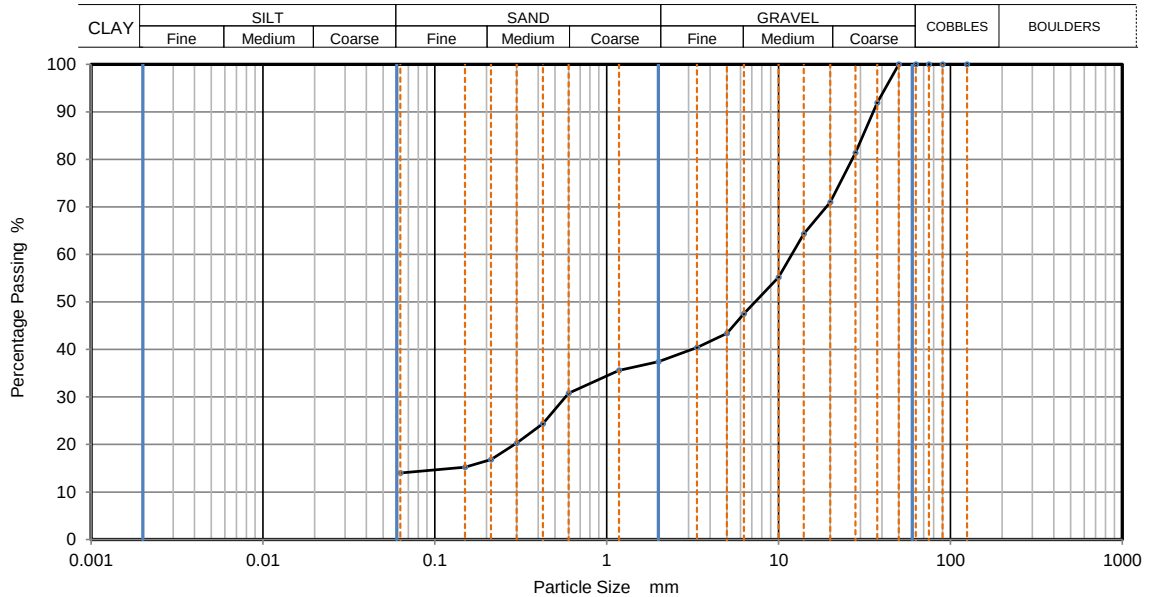
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## PARTICLE SIZE DISTRIBUTION

|                    |  |  |            |  |  |
|--------------------|--|--|------------|--|--|
| Job Ref            |  |  | 34517      |  |  |
|                    |  |  | WS07       |  |  |
| Borehole/Pit No.   |  |  | WS07       |  |  |
| Sample No.         |  |  | 4          |  |  |
| Depth Top          |  |  | 1.50 m     |  |  |
| Depth Base         |  |  | - m        |  |  |
| Sample Type        |  |  | D          |  |  |
| Samples received   |  |  | 04/12/2023 |  |  |
| Schedules received |  |  | 23/11/2023 |  |  |
| Project started    |  |  | 05/12/2023 |  |  |
| Date tested        |  |  | 11/12/2023 |  |  |

These results only apply to the items tested



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 92        |                  |           |
| 28               | 81        |                  |           |
| 20               | 71        |                  |           |
| 14               | 64        |                  |           |
| 10               | 55        |                  |           |
| 6.3              | 48        |                  |           |
| 5                | 43        |                  |           |
| 3.35             | 40        |                  |           |
| 2                | 37        |                  |           |
| 1.18             | 36        |                  |           |
| 0.6              | 31        |                  |           |
| 0.425            | 24        |                  |           |
| 0.3              | 20        |                  |           |
| 0.212            | 17        |                  |           |
| 0.15             | 15        |                  |           |
| 0.063            | 14        |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 62.57      |
| Sand               | 23.43      |
| Fines <0.063mm     | 14.01      |

| Grading Analysis       |    |
|------------------------|----|
| D100                   | mm |
| D60                    | mm |
| D30                    | mm |
| D10                    | mm |
| Uniformity Coefficient |    |
| Curvature Coefficient  |    |

Remarks  
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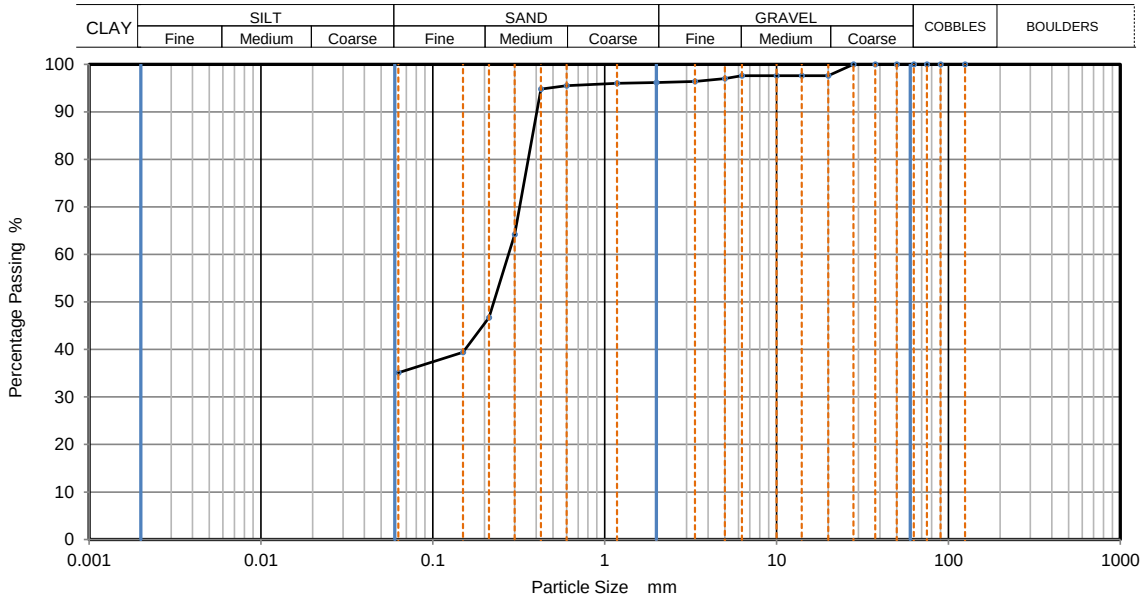
|      |                                                                                               |  |                                    |  |
|------|-----------------------------------------------------------------------------------------------|--|------------------------------------|--|
|      | <b>K4 Soils Laboratory</b>                                                                    |  | Checked and Approved               |  |
|      | Unit 8, Olds Close, Watford, Herts, WD18 9RU<br>Email: james@k4soils.com<br>Tel: 01923 711288 |  | Initials: J.P.<br>Date: 18/12/2023 |  |
| 2519 | Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)                                  |  | MSF-5-R3                           |  |



## PARTICLE SIZE DISTRIBUTION

|                                                                                   |                                                                                                       |        |      |                    |            |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------|------|--------------------|------------|
|  | PARTICLE SIZE DISTRIBUTION                                                                            |        |      | Job Ref            | 34517      |
|                                                                                   |                                                                                                       |        |      | Borehole/Pit No.   | WS07       |
| Site Name                                                                         | West End Road                                                                                         |        |      | Sample No.         | 5          |
| Project No.                                                                       | GE22135                                                                                               | Client | GESL | Depth Top          | 2.00 m     |
| Soil Description                                                                  | Orangish brown and yellowish brown slightly gravelly sandy silty CLAY (gravel is fmc and sub-angular) |        |      | Depth Base         | - m        |
|                                                                                   |                                                                                                       |        |      | Sample Type        | D          |
|                                                                                   |                                                                                                       |        |      | Samples received   | 04/12/2023 |
|                                                                                   |                                                                                                       |        |      | Schedules received | 23/11/2023 |
| Test Method                                                                       | BS1377:Part 2: 1990, clause 9.0                                                                       |        |      | Project started    | 05/12/2023 |
| These results only apply to the items tested                                      |                                                                                                       |        |      | Date tested        | 11/12/2023 |

These results only apply to the items tested



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 100       |                  |           |
| 20               | 98        |                  |           |
| 14               | 98        |                  |           |
| 10               | 98        |                  |           |
| 6.3              | 98        |                  |           |
| 5                | 97        |                  |           |
| 3.35             | 96        |                  |           |
| 2                | 96        |                  |           |
| 1.18             | 96        |                  |           |
| 0.6              | 96        |                  |           |
| 0.425            | 95        |                  |           |
| 0.3              | 64        |                  |           |
| 0.212            | 47        |                  |           |
| 0.15             | 39        |                  |           |
| 0.063            | 35        |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 3.77       |
| Sand               | 61.12      |
| Fines <0.063mm     | 35.11      |

| Grading Analysis       |    |
|------------------------|----|
| D100                   | mm |
| D60                    | mm |
| D30                    | mm |
| D10                    | mm |
| Uniformity Coefficient |    |
| Curvature Coefficient  |    |

Remarks  
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### K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

### Checked and Approved

Initials: J.P

Date: 18/12/2023

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

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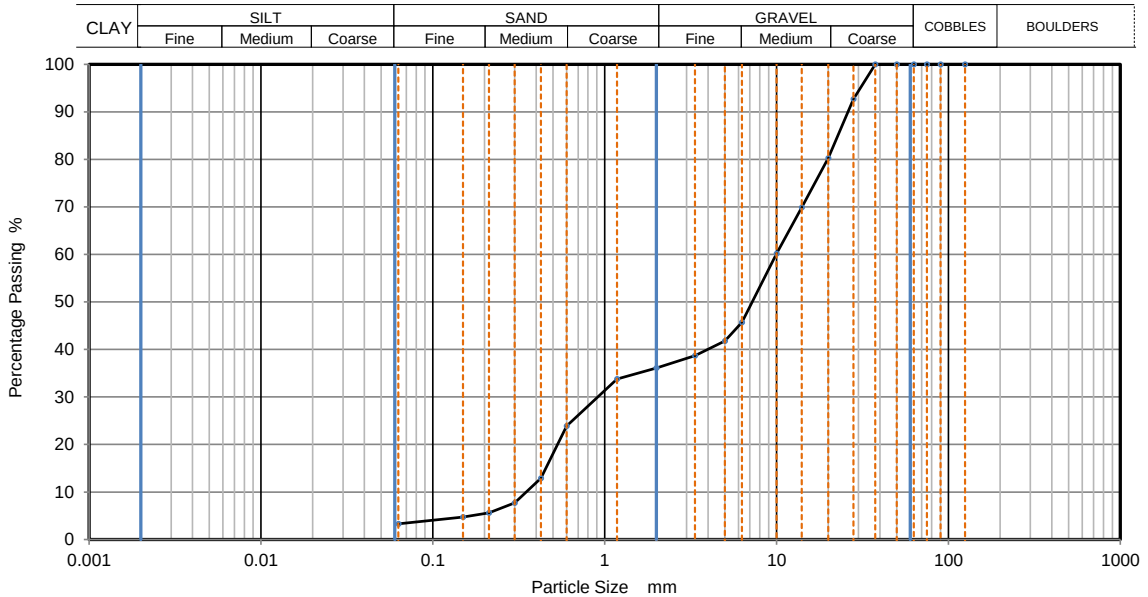




## PARTICLE SIZE DISTRIBUTION

|                                                                                   |                                                                                        |        |      |                    |            |   |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------|------|--------------------|------------|---|
|  | PARTICLE SIZE DISTRIBUTION                                                             |        |      | Job Ref            | 34517      |   |
|                                                                                   |                                                                                        |        |      | Borehole/Pit No.   | WS08       |   |
| Site Name                                                                         | West End Road                                                                          |        |      | Sample No.         | 1          |   |
| Project No.                                                                       | GE22135                                                                                | Client | GESL | Depth Top          | 1.00       | m |
| Soil Description                                                                  | Brown slightly clayey very sandy GRAVEL (gravel is fmc and sub-angular to sub-rounded) |        |      | Depth Base         | -          | m |
|                                                                                   |                                                                                        |        |      | Sample Type        | D          |   |
|                                                                                   |                                                                                        |        |      | Samples received   | 04/12/2023 |   |
|                                                                                   |                                                                                        |        |      | Schedules received | 23/11/2023 |   |
| Test Method                                                                       | BS1377:Part 2: 1990, clause 9.0                                                        |        |      | Project started    | 05/12/2023 |   |
| These results only apply to the items tested                                      |                                                                                        |        |      | Date tested        | 11/12/2023 |   |

These results only apply to the items tested



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 93        |                  |           |
| 20               | 80        |                  |           |
| 14               | 70        |                  |           |
| 10               | 60        |                  |           |
| 6.3              | 46        |                  |           |
| 5                | 42        |                  |           |
| 3.35             | 39        |                  |           |
| 2                | 36        |                  |           |
| 1.18             | 34        |                  |           |
| 0.6              | 24        |                  |           |
| 0.425            | 13        |                  |           |
| 0.3              | 8         |                  |           |
| 0.212            | 6         |                  |           |
| 0.15             | 5         |                  |           |
| 0.063            | 3         |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Very coarse        | 0.00       |
| Gravel             | 63.94      |
| Sand               | 32.78      |
| Fines <0.063mm     | 3.27       |

| Grading Analysis       |      |
|------------------------|------|
| D100                   | mm   |
| D60                    | mm   |
| D30                    | mm   |
| D10                    | mm   |
| Uniformity Coefficient | 28   |
| Curvature Coefficient  | 0.24 |

### Remarks

Preparation and testing in accordance with BS1377 unless noted below

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### K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

### Checked and Approved

Initials: J.P

Date: 18/12/2023

2519

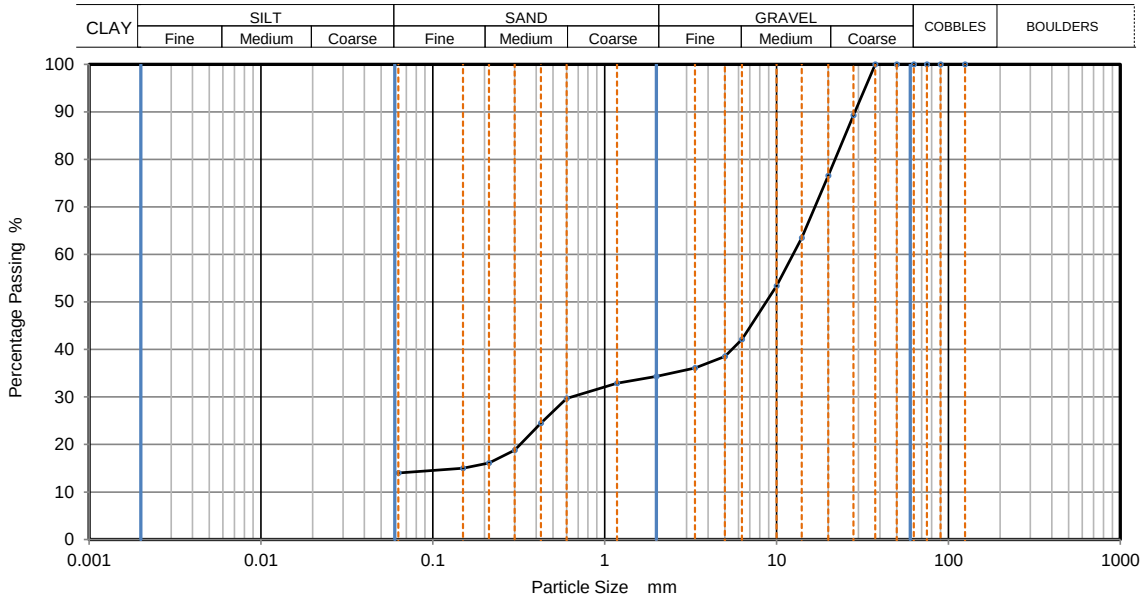
Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3



## PARTICLE SIZE DISTRIBUTION

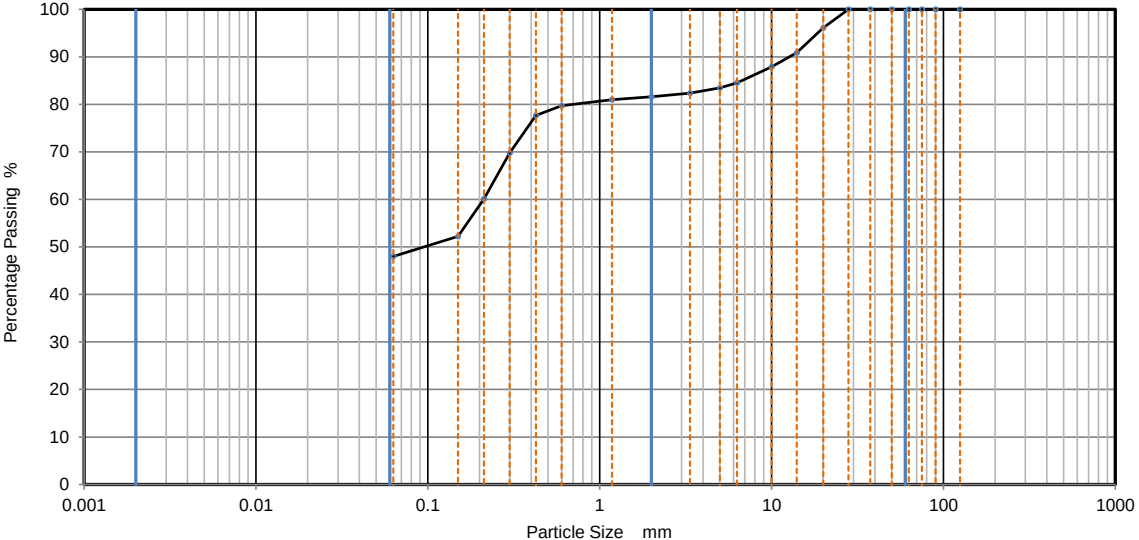
|                                              |  |  |                                 |  |  |
|----------------------------------------------|--|--|---------------------------------|--|--|
| Job Ref                                      |  |  | 34517                           |  |  |
|                                              |  |  | WS09                            |  |  |
| Site Name                                    |  |  | West End Road                   |  |  |
| Project No.                                  |  |  | GE22135                         |  |  |
| Client                                       |  |  | GESL                            |  |  |
| Soil Description                             |  |  | Depth Top                       |  |  |
|                                              |  |  | 1.50 m                          |  |  |
|                                              |  |  | Depth Base                      |  |  |
|                                              |  |  | -                               |  |  |
|                                              |  |  | Sample Type                     |  |  |
|                                              |  |  | D                               |  |  |
|                                              |  |  | Samples received                |  |  |
|                                              |  |  | 04/12/2023                      |  |  |
|                                              |  |  | Schedules received              |  |  |
|                                              |  |  | 23/11/2023                      |  |  |
| Test Method                                  |  |  | BS1377:Part 2: 1990, clause 9.0 |  |  |
| These results only apply to the items tested |  |  | Project started                 |  |  |
|                                              |  |  | 05/12/2023                      |  |  |
|                                              |  |  | Date tested                     |  |  |
|                                              |  |  | 11/12/2023                      |  |  |



|                                                                                   |                                                                                                                                     |        |      |                    |            |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------|------|--------------------|------------|
|  | <b>PARTICLE SIZE DISTRIBUTION</b>                                                                                                   |        |      | Job Ref            | 34517      |
|                                                                                   |                                                                                                                                     |        |      | Borehole/Pit No.   | WS11       |
| Site Name                                                                         | West End Road                                                                                                                       |        |      | Sample No.         | 3          |
| Project No.                                                                       | GE22135                                                                                                                             | Client | GESL | Depth Top          | 1.50 m     |
| Soil Description                                                                  | Reddish brown mottled bluish grey with dark grey stains slightly gravelly slightly sandy silty CLAY (gravel is fmc and sub-rounded) |        |      | Depth Base         | - m        |
|                                                                                   |                                                                                                                                     |        |      | Sample Type        | D          |
|                                                                                   |                                                                                                                                     |        |      | Samples received   | 04/12/2023 |
|                                                                                   |                                                                                                                                     |        |      | Schedules received | 23/11/2023 |
| Test Method                                                                       | BS1377:Part 2: 1990, clause 9.0                                                                                                     |        |      | Project started    | 05/12/2023 |
| These results only apply to the items tested                                      |                                                                                                                                     |        |      | Date tested        | 11/12/2023 |

| CLAY | SILT |        |        | SAND |        |        | GRAVEL |        |        | COBBLES | BOULDERS |
|------|------|--------|--------|------|--------|--------|--------|--------|--------|---------|----------|
|      | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine   | Medium | Coarse |         |          |

| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 100       |                  |           |
| 20               | 96        |                  |           |
| 14               | 91        |                  |           |
| 10               | 88        |                  |           |
| 6.3              | 85        |                  |           |
| 5                | 84        |                  |           |
| 3.35             | 82        |                  |           |
| 2                | 82        |                  |           |
| 1.18             | 81        |                  |           |
| 0.6              | 80        |                  |           |
| 0.425            | 78        |                  |           |
| 0.3              | 70        |                  |           |
| 0.212            | 60        |                  |           |
| 0.15             | 52        |                  |           |
| 0.063            | 48        |                  |           |

| Sample Proportions |  | % dry mass |
|--------------------|--|------------|
| Very coarse        |  | 0.00       |
| Gravel             |  | 18.44      |
| Sand               |  | 33.55      |
| Fines <0.063mm     |  | 48.01      |

| Grading Analysis       |    |       |
|------------------------|----|-------|
| D100                   | mm |       |
| D60                    | mm | 0.211 |
| D30                    | mm |       |
| D10                    | mm |       |
| Uniformity Coefficient |    |       |
| Curvature Coefficient  |    |       |

Remarks  
Preparation and testing in accordance with BS1377 unless noted below

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|                                                                                     |                                                                                                                             |  |                                                           |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------|
|  | <b>K4 Soils Laboratory</b><br>Unit 8, Olds Close, Watford, Herts, WD18 9RU<br>Email: james@k4soils.com<br>Tel: 01923 711288 |  | Checked and Approved<br>Initials: J.P<br>Date: 18/12/2023 |
|                                                                                     | Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)                                                                |  | MSF-5-R3                                                  |
|                                                                                     | 2519                                                                                                                        |  |                                                           |
|                                                                                     |                                                                                                                             |  |                                                           |
|                                                                                     |                                                                                                                             |  |                                                           |

## **APPENDIX E**

### **Chemical Test Results & Hazwaste Assessment**







Unit A2  
Windmill Road  
Ponswood Industrial Estate  
St Leonards on Sea  
East Sussex  
TN38 9BY  
Telephone: (01424) 718618

[cs@elab-uk.co.uk](mailto:cs@elab-uk.co.uk)  
[info@elab-uk.co.uk](mailto:info@elab-uk.co.uk)

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## THE ENVIRONMENTAL LABORATORY LTD

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**Analytical Report Number:** 23-51317

**Issue:** 1a

**Date of Issue:** 11/12/2023

**Contact:** Anthony Potter

**Customer Details:** GESL  
Unit 7  
Danworth Farm  
Hurstpierpoint  
West Sussex BN6 9GL

**Quotation No:** Q22-03510

**Order No:** Not Supplied

**Customer Reference:** GE22135

**Date Received:** 29/11/2023

**Date Approved:** 11/12/2023

**Details:** West End Road, Burlesdon

**Approved by:**

Ben Rees, Customer Services Assistant

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Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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## Sample Summary

Report No.: 23-51317, issue number 1a

| Elab No. | Client's Ref. | Date Sampled | Date Scheduled | Description      | Deviations |
|----------|---------------|--------------|----------------|------------------|------------|
| 346638   | WS01 0.30     | 22/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346639   | WS01 2.00     | 22/11/2023   | 29/11/2023     | Clayey loam      |            |
| 346640   | WS02 0.20     | 22/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346641   | WS03 0.10     | 21/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346642   | WS03 0.50     | 21/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346643   | WS03 1.60     | 21/11/2023   | 29/11/2023     | Loamy sand       |            |
| 346644   | WS05 0.10     | 22/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346645   | WS05 0.50     | 22/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346646   | WS06 0.10     | 22/11/2023   | 29/11/2023     | Silty loam       |            |
| 346647   | WS07 0.80     | 22/11/2023   | 29/11/2023     | Clayey loam      |            |
| 346648   | WS07 1.20     | 22/11/2023   | 29/11/2023     | Sandy loam       |            |
| 346649   | WS08 0.10     | 22/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346650   | WS09 0.10     | 22/11/2023   | 29/11/2023     | Silty loam       |            |
| 346651   | WS09 0.80     | 22/11/2023   | 29/11/2023     | Clayey loam      |            |
| 346652   | WS08 1.00     | 22/11/2023   | 29/11/2023     | Loamy sand       |            |
| 346653   | WS10 0.10     | 22/11/2023   | 29/11/2023     | Sandy silty loam |            |
| 346654   | WS11 0.20     | 21/11/2023   | 29/11/2023     | Sandy loam       |            |
| 346655   | WS11 0.80     | 21/11/2023   | 29/11/2023     | Clayey loam      |            |



## Results Summary

2683

Report No.: 23-51317, issue number 1a

|                                       |       |       |     |            |            |            |            |            |            |            |            |            |            |            |            |
|---------------------------------------|-------|-------|-----|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference                        |       |       |     | 346638     | 346639     | 346640     | 346641     | 346642     | 346643     | 346644     | 346645     | 346646     | 346647     | 346648     | 346649     |
| Customer Reference                    |       |       |     |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample ID                             |       |       |     |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample Type                           |       |       |     | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sample Location                       |       |       |     | WS01       | WS01       | WS02       | WS03       | WS03       | WS03       | WS05       | WS05       | WS06       | WS07       | WS07       | WS08       |
| Sample Depth (m)                      |       |       |     | 0.30       | 2.00       | 0.20       | 0.10       | 0.50       | 1.60       | 0.10       | 0.50       | 0.10       | 0.80       | 1.20       | 0.10       |
| Sampling Date                         |       |       |     | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 | 21/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 |
| Determinand                           | Codes | Units | LOD |            |            |            |            |            |            |            |            |            |            |            |            |
| Soil sample preparation parameters    |       |       |     |            |            |            |            |            |            |            |            |            |            |            |            |
| Moisture Content                      | N     | %     | 0.1 | 15.0       | 15.7       | 11.7       | 8.8        | 7.0        | 14.7       | 13.1       | 11.0       | 20.0       | 11.9       | 11.6       | 12.7       |
| Material removed                      | N     | %     | 0.1 | 14.2       | < 0.1      | 21.5       | 23.3       | 28.5       | < 0.1      | 11.8       | 20.6       | 15.2       | 21.6       | 6.8        | 9.7        |
| Description of Inert material removed | N     |       | 0   | Stones     | None       | Stones     | Stones     | Stones     | None       | Stones     | Stones     | Stones     | Stones     | Stones     | Stones     |
| Metals                                |       |       |     |            |            |            |            |            |            |            |            |            |            |            |            |
| Antimony                              | N     | mg/kg | 0.5 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.5      | n/t        | n/t        | n/t        | n/t        |
| Arsenic                               | M     | mg/kg | 0.5 | 16.4       | n/t        | 9.5        | 7.4        | 7.4        | n/t        | 3.3        | 5.1        | 4.4        | 9.7        | n/t        | 2.3        |
| Barium                                | U     | mg/kg | 1   | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | 18.5       | n/t        | n/t        | n/t        | n/t        |
| Beryllium                             | M     | mg/kg | 0.5 | < 0.5      | n/t        | < 0.5      | < 0.5      | < 0.5      | n/t        | < 0.5      | < 0.5      | < 0.5      | < 0.5      | n/t        | < 0.5      |
| Cadmium                               | M     | mg/kg | 0.2 | < 0.2      | n/t        | < 0.2      | < 0.2      | < 0.2      | n/t        | < 0.2      | < 0.2      | < 0.2      | < 0.2      | n/t        | < 0.2      |
| Chromium                              | M     | mg/kg | 1   | 26.8       | n/t        | 15.8       | 18.0       | 14.7       | n/t        | 10.8       | 16.1       | 13.5       | 51.2       | n/t        | 9.1        |
| Copper                                | M     | mg/kg | 4   | 18.2       | n/t        | 14.3       | 12.3       | 7.6        | n/t        | 6.2        | 6.1        | 13.8       | 14.0       | n/t        | 5.8        |
| Lead                                  | M     | mg/kg | 1   | 27.3       | n/t        | 92.9       | 37.0       | 16.5       | n/t        | 20.0       | 11.1       | 39.2       | 14.7       | n/t        | 10.6       |
| Mercury                               | M     | mg/kg | 0.1 | 0.1        | n/t        | 0.1        | 0.1        | < 0.1      | n/t        | < 0.1      | < 0.1      | 0.1        | 0.1        | n/t        | < 0.1      |
| Molybdenum                            | M     | mg/kg | 1   | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1.0      | n/t        | n/t        | n/t        | n/t        |
| Nickel                                | M     | mg/kg | 1   | 7.1        | n/t        | 6.2        | 6.8        | 6.2        | n/t        | 4.1        | 5.7        | 3.7        | 9.1        | n/t        | 2.5        |
| Selenium                              | M     | mg/kg | 1   | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| Vanadium                              | M     | mg/kg | 0.5 | 51.9       | n/t        | 28.8       | 26.4       | 18.7       | n/t        | 15.2       | 21.6       | 20.6       | 92.9       | n/t        | 10.6       |
| Zinc                                  | M     | mg/kg | 4.5 | 60.4       | n/t        | 50.8       | 34.0       | 16.3       | n/t        | 14.9       | 15.4       | 22.5       | 23.6       | n/t        | 16.7       |



## Results Summary

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Report No.: 23-51317, issue number 1a

|                                               |       |          |      |            |            |            |            |            |            |            |            |            |            |            |            |
|-----------------------------------------------|-------|----------|------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference                                |       |          |      | 346638     | 346639     | 346640     | 346641     | 346642     | 346643     | 346644     | 346645     | 346646     | 346647     | 346648     | 346649     |
| Customer Reference                            |       |          |      |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample ID                                     |       |          |      |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample Type                                   |       |          |      | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sample Location                               |       |          |      | WS01       | WS01       | WS02       | WS03       | WS03       | WS03       | WS05       | WS05       | WS06       | WS07       | WS07       | WS08       |
| Sample Depth (m)                              |       |          |      | 0.30       | 2.00       | 0.20       | 0.10       | 0.50       | 1.60       | 0.10       | 0.50       | 0.10       | 0.80       | 1.20       | 0.10       |
| Sampling Date                                 |       |          |      | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 | 21/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 |
| Determinand                                   | Codes | Units    | LOD  |            |            |            |            |            |            |            |            |            |            |            |            |
| Anions                                        |       |          |      |            |            |            |            |            |            |            |            |            |            |            |            |
| Water Soluble Chloride                        | M     | mg/kg    | 40   | 62         | n/t        | 50         | 45         | 48         | n/t        | 46         | n/t        | < 40       | < 40       | n/t        | 43         |
| Water Soluble Sulphate                        | M     | g/l      | 0.02 | 0.04       | 0.05       | < 0.02     | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     |
| Inorganics                                    |       |          |      |            |            |            |            |            |            |            |            |            |            |            |            |
| Elemental Sulphur                             | M     | mg/kg    | 20   | < 20       | n/t        | < 20       | < 20       | < 20       | n/t        | < 20       | n/t        | < 20       | < 20       | n/t        | < 20       |
| Free Cyanide                                  | N     | mg/kg    | 1    | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1.0      | n/t        | n/t        | n/t        | n/t        |
| Hexavalent Chromium                           | N     | mg/kg    | 0.8  | < 0.8      | n/t        | < 0.8      | < 0.8      | < 0.8      | n/t        | < 0.8      | < 0.8      | < 0.8      | < 0.8      | n/t        | < 0.8      |
| Total Sulphide                                | N     | mg/kg    | 2    | < 2        | n/t        | < 2        | < 2        | < 2        | n/t        | < 2        | n/t        | < 2        | < 2        | n/t        | < 2        |
| Total Cyanide                                 | M     | mg/kg    | 1    | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| Total Sulphur                                 | N     | %        | 0.01 | n/t        | 0.01       | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        | 0.01       | n/t        |
| Acid Soluble Sulphate (SO4)                   | U     | %        | 0.02 | 0.10       | 0.03       | 0.03       | 0.02       | < 0.02     | < 0.02     | 0.02       | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     |
| Water Soluble Boron                           | N     | mg/kg    | 0.5  | 0.8        | n/t        | 0.8        | 0.7        | 0.6        | n/t        | 0.7        | 0.5        | 0.6        | < 0.5      | n/t        | 0.8        |
| Miscellaneous                                 |       |          |      |            |            |            |            |            |            |            |            |            |            |            |            |
| Acid Neutralisation Capacity                  | N     | mol/kg   | 0.1  | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.1      | n/t        | n/t        | n/t        | n/t        |
| Loss on Ignition                              | M     | %        | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | 2.34       | n/t        | n/t        | n/t        | n/t        |
| pH                                            | M     | pH units | 0.1  | 7.7        | 5.1        | 6.3        | 6.3        | 6.5        | 6.1        | 6.2        | 5.9        | 5.8        | 5.4        | 5.4        | 5.3        |
| Total Organic Carbon                          | N     | %        | 0.01 | 1.1        | n/t        | 1.9        | 1.4        | 0.84       | n/t        | 1.1        | 0.42       | 1.9        | 0.10       | n/t        | 2.0        |
| Organics                                      |       |          |      |            |            |            |            |            |            |            |            |            |            |            |            |
| >C8-C10 BCB (EH_ID_Total)                     | N     | mg/kg    | 1    | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1.0      | n/t        | n/t        | n/t        | n/t        |
| Gas Range Organics (>C6-C10) (HS_ID_MS_Total) | N     | mg/kg    | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |





## Results Summary

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Report No.: 23-51317, issue number 1a

|                           |    |       |       | ELAB Reference     | 346638     | 346639     | 346640     | 346641     | 346642     | 346643     | 346644     | 346645     | 346646     | 346647     | 346648     | 346649     |
|---------------------------|----|-------|-------|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|                           |    |       |       | Customer Reference |            |            |            |            |            |            |            |            |            |            |            |            |
|                           |    |       |       | Sample ID          |            |            |            |            |            |            |            |            |            |            |            |            |
|                           |    |       |       | Sample Type        | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
|                           |    |       |       | Sample Location    | WS01       | WS01       | WS02       | WS03       | WS03       | WS03       | WS05       | WS05       | WS06       | WS07       | WS07       | WS08       |
|                           |    |       |       | Sample Depth (m)   | 0.30       | 2.00       | 0.20       | 0.10       | 0.50       | 1.60       | 0.10       | 0.50       | 0.10       | 0.80       | 1.20       | 0.10       |
|                           |    |       |       | Sampling Date      | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 | 21/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 |
| Determinand               |    | Codes | Units | LOD                |            |            |            |            |            |            |            |            |            |            |            |            |
| Phenols                   |    |       |       |                    |            |            |            |            |            |            |            |            |            |            |            |            |
| Phenol                    | M  | mg/kg | 1     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1        | n/t        | n/t        | n/t        | n/t        |
| M,P-Cresol                | N  | mg/kg | 1     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1        | n/t        | n/t        | n/t        | n/t        |
| O-Cresol                  | N  | mg/kg | 1     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1        | n/t        | n/t        | n/t        | n/t        |
| 3,4-Dimethylphenol        | N  | mg/kg | 1     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1        | n/t        | n/t        | n/t        | n/t        |
| 2,3-Dimethylphenol        | M  | mg/kg | 1     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1        | n/t        | n/t        | n/t        | n/t        |
| 1-Naphthol                | N  | mg/kg | 1     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1        | n/t        | n/t        | n/t        | n/t        |
| 2,3,5-trimethylphenol     | M  | mg/kg | 1     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 1        | n/t        | n/t        | n/t        | n/t        |
| Total Phenols             | N  | mg/kg | 6     | < 6                | n/t        | < 6        | < 6        | < 6        | < 6        | n/t        | < 6        | < 6        | < 6        | < 6        | n/t        | < 6        |
| Polyaromatic hydrocarbons |    |       |       |                    |            |            |            |            |            |            |            |            |            |            |            |            |
| Naphthalene               | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Acenaphthylene            | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Acenaphthene              | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Fluorene                  | US | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Phenanthrene              | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | 0.03       | < 0.02     | n/t        | < 0.02     |
| Anthracene                | US | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Fluoranthene              | MS | mg/kg | 0.02  | < 0.02             | n/t        | 0.05       | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | 0.08       | < 0.02     | n/t        | 0.03       |
| Pyrene                    | MS | mg/kg | 0.02  | < 0.02             | n/t        | 0.04       | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | 0.08       | < 0.02     | n/t        | 0.02       |
| Benzo(a)anthracene        | US | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | 0.03       | < 0.02     | n/t        | < 0.02     |
| Chrysene                  | MS | mg/kg | 0.02  | < 0.03             | n/t        | < 0.03     | < 0.03     | < 0.03     | < 0.03     | n/t        | < 0.03     | n/t        | < 0.03     | < 0.03     | n/t        | < 0.03     |
| Benzo(b)fluoranthene      | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | 0.03       | < 0.02     | n/t        | < 0.02     |
| Benzo(k)fluoranthene      | MS | mg/kg | 0.03  | < 0.03             | n/t        | < 0.03     | < 0.03     | < 0.03     | < 0.03     | n/t        | < 0.03     | n/t        | < 0.03     | < 0.03     | n/t        | < 0.03     |
| Benzo(a)pyrene            | US | mg/kg | 0.02  | < 0.02             | n/t        | 0.03       | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | 0.04       | < 0.02     | n/t        | < 0.02     |
| Indeno(1,2,3-cd)pyrene    | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Dibenzo(a,h)anthracene    | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Benzo[g,h,i]perylene      | MS | mg/kg | 0.02  | < 0.02             | n/t        | < 0.02     | < 0.02     | < 0.02     | < 0.02     | n/t        | < 0.02     | n/t        | < 0.02     | < 0.02     | n/t        | < 0.02     |
| Total PAH(16)             | NS | mg/kg | 0.34  | < 0.34             | n/t        | < 0.34     | < 0.34     | < 0.34     | < 0.34     | n/t        | < 0.34     | n/t        | < 0.34     | < 0.34     | n/t        | < 0.34     |
| Total (of 17) PAHs        | N  | mg/kg | 2     | n/t                | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 2        | n/t        | n/t        | n/t        | n/t        |



## Results Summary

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|                                                    |       |       |       |            |            |            |            |            |            |            |            |            |            |            |            |
|----------------------------------------------------|-------|-------|-------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference                                     |       |       |       | 346638     | 346639     | 346640     | 346641     | 346642     | 346643     | 346644     | 346645     | 346646     | 346647     | 346648     | 346649     |
| Customer Reference                                 |       |       |       |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample ID                                          |       |       |       |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample Type                                        |       |       |       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sample Location                                    |       |       |       | WS01       | WS01       | WS02       | WS03       | WS03       | WS03       | WS05       | WS05       | WS06       | WS07       | WS07       | WS08       |
| Sample Depth (m)                                   |       |       |       | 0.30       | 2.00       | 0.20       | 0.10       | 0.50       | 1.60       | 0.10       | 0.50       | 0.10       | 0.80       | 1.20       | 0.10       |
| Sampling Date                                      |       |       |       | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 | 21/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 |
| Determinand                                        | Codes | Units | LOD   |            |            |            |            |            |            |            |            |            |            |            |            |
| <b>BTEX</b>                                        |       |       |       |            |            |            |            |            |            |            |            |            |            |            |            |
| Benzene                                            | M     | ug/kg | 10    | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | n/t        | < 10.0     |
| Toluene                                            | M     | ug/kg | 10    | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | n/t        | < 10.0     |
| Ethylbenzene                                       | M     | ug/kg | 10    | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | n/t        | < 10.0     |
| Xylenes                                            | M     | ug/kg | 10    | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | n/t        | < 10.0     |
| MTBE                                               | N     | ug/kg | 10    | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | n/t        | < 10.0     |
| Total BTEX                                         | M     | mg/kg | 0.01  | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
| <b>TPH CWG</b>                                     |       |       |       |            |            |            |            |            |            |            |            |            |            |            |            |
| >C5-C6 Aliphatic (HS_1D_MS_AL)                     | N     | mg/kg | 0.01  | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     |
| >C6-C8 Aliphatic (HS_1D_MS_AL)                     | N     | mg/kg | 0.01  | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     |
| >C8-C10 Aliphatic (EH_CU_1D_AL)                    | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C10-C12 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C12-C16 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C16-C21 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C21-C35 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | 12.0       | n/t        | 21.1       | 1.8        | < 1.0      | n/t        | 1.4        | < 1.0      | < 1.0      | 1.3        | n/t        | < 1.0      |
| >C35-C40 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | 1.2        | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| Total (>C5-C40) Aliphatic (HS_1D_MS+EH_CU_1D_AL)   | N     | mg/kg | 1     | 13.2       | n/t        | 21.1       | 1.8        | < 1.0      | n/t        | 1.4        | < 1.0      | < 1.0      | 1.3        | n/t        | < 1.0      |
| >C5-C7 Aromatic (HS_1D_MS_AR)                      | N     | mg/kg | 0.01  | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     |
| >C7-C8 Aromatic (HS_1D_MS_AR)                      | N     | mg/kg | 0.01  | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     | < 0.01     | n/t        | < 0.01     |
| >C8-C10 Aromatic (EH_CU_1D_AR)                     | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C10-C12 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C12-C16 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C16-C21 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C21-C35 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | 15.3       | n/t        | 21.8       | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| >C35-C40 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | 4.4        | n/t        | 2.1        | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| Total (>C5-C40) Aromatic (HS_1D_MS+EH_CU_1D_AR)    | N     | mg/kg | 1     | 19.7       | n/t        | 23.9       | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      | < 1.0      | n/t        | < 1.0      |
| Total (>C5-C40) Alii/Aro (HS_1D_MS+EH_CU_1D_Total) | N     | mg/kg | 1     | 33.0       | n/t        | 45.0       | 1.8        | < 1.0      | n/t        | 1.4        | < 1.0      | < 1.0      | 1.3        | n/t        | < 1.0      |
| <b>Total Petroleum Hydrocarbons</b>                |       |       |       |            |            |            |            |            |            |            |            |            |            |            |            |
| Mineral Oil w Florisil (EH_CU_1D_Total)            | N     | mg/kg | 5     | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 5        | n/t        | n/t        | n/t        | n/t        |
| Total TPH w Silica (>C8-C40) (EH_CU_1D_Total)      | N     | mg/kg | 5     | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 5        | n/t        | n/t        | n/t        | n/t        |
| Total TPH (>C8-C40) (EH_1D_Total)                  | N     | mg/kg | 5     | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 5        | n/t        | n/t        | n/t        | n/t        |
| Fuel type ID                                       | N     |       | 0.001 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/a        | n/t        | n/t        | n/t        | n/t        |

Tests marked N are not UKAS accredited.

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## Results Summary

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|                    |       |      |            |            |            |            |            |            |            |            |            |            |            |            |
|--------------------|-------|------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference     |       |      | 346638     | 346639     | 346640     | 346641     | 346642     | 346643     | 346644     | 346645     | 346646     | 346647     | 346648     | 346649     |
| Customer Reference |       |      |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample ID          |       |      |            |            |            |            |            |            |            |            |            |            |            |            |
| Sample Type        |       |      | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sample Location    |       |      | WS01       | WS01       | WS02       | WS03       | WS03       | WS03       | WS05       | WS05       | WS06       | WS07       | WS07       | WS08       |
| Sample Depth (m)   |       |      | 0.30       | 2.00       | 0.20       | 0.10       | 0.50       | 1.60       | 0.10       | 0.50       | 0.10       | 0.80       | 1.20       | 0.10       |
| Sampling Date      |       |      | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 | 21/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 |
| s                  | Units | LOD  |            |            |            |            |            |            |            |            |            |            |            |            |
|                    |       |      |            |            |            |            |            |            |            |            |            |            |            |            |
|                    | mg/kg | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
|                    | mg/kg | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
|                    | mg/kg | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
|                    | mg/kg | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
|                    | mg/kg | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
|                    | mg/kg | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
|                    | mg/kg | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.01     | n/t        | n/t        | n/t        | n/t        |
|                    | mg/kg | 0.03 | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | n/t        | < 0.03     | n/t        | n/t        | n/t        | n/t        |
|                    |       |      |            |            |            |            |            |            |            |            |            |            |            |            |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | 50         | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | 62         | n/t        | n/t        | n/t        | n/t        | n/t        | 100        | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | 16         | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | 54         | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |
|                    | ug/kg | 10   | n/t        | n/t        | < 10       | n/t        | n/t        | n/t        | n/t        | n/t        | < 10       | n/t        | n/t        | < 10       |



## Results Summary

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Report No.: 23-51317, issue number 1a

|                    |            |            |            |            |            |            |
|--------------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference     | 346650     | 346651     | 346652     | 346653     | 346654     | 346655     |
| Customer Reference |            |            |            |            |            |            |
| Sample ID          |            |            |            |            |            |            |
| Sample Type        | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       |
| Sample Location    | WS09       | WS09       | WS08       | WS10       | WS11       | WS11       |
| Sample Depth (m)   | 0.10       | 0.80       | 1.00       | 0.10       | 0.20       | 0.80       |
| Sampling Date      | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 |

| Determinand                               | Codes | Units | LOD |        |        |        |       |       |       |
|-------------------------------------------|-------|-------|-----|--------|--------|--------|-------|-------|-------|
| <b>Soil sample preparation parameters</b> |       |       |     |        |        |        |       |       |       |
| Moisture Content                          | N     | %     | 0.1 | 11.8   | 15.3   | 5.8    | 12.2  | 18.5  | 16.9  |
| Material removed                          | N     | %     | 0.1 | 20.8   | 25.0   | 16.3   | < 0.1 | < 0.1 | < 0.1 |
| Description of Inert material removed     | N     |       | 0   | Stones | Stones | Stones | None  | None  | None  |
| <b>Metals</b>                             |       |       |     |        |        |        |       |       |       |
| Antimony                                  | N     | mg/kg | 0.5 | < 0.5  | n/t    | n/t    | n/t   | n/t   | n/t   |
| Arsenic                                   | M     | mg/kg | 0.5 | 4.3    | 22.9   | n/t    | 6.6   | 9.3   | 20.9  |
| Barium                                    | U     | mg/kg | 1   | 14.7   | n/t    | n/t    | n/t   | n/t   | n/t   |
| Beryllium                                 | M     | mg/kg | 0.5 | < 0.5  | < 0.5  | n/t    | < 0.5 | < 0.5 | < 0.5 |
| Cadmium                                   | M     | mg/kg | 0.2 | < 0.2  | < 0.2  | n/t    | < 0.2 | < 0.2 | < 0.2 |
| Chromium                                  | M     | mg/kg | 1   | 13.4   | 55.1   | n/t    | 16.8  | 18.3  | 32.4  |
| Copper                                    | M     | mg/kg | 4   | 7.6    | 12.6   | n/t    | 7.7   | 5.0   | 5.8   |
| Lead                                      | M     | mg/kg | 1   | 20.3   | 17.5   | n/t    | 17.0  | 16.3  | 11.6  |
| Mercury                                   | M     | mg/kg | 0.1 | < 0.1  | 0.1    | n/t    | < 0.1 | < 0.1 | < 0.1 |
| Molybdenum                                | M     | mg/kg | 1   | < 1.0  | n/t    | n/t    | n/t   | n/t   | n/t   |
| Nickel                                    | M     | mg/kg | 1   | 3.5    | 8.5    | n/t    | 4.0   | 3.8   | 4.7   |
| Selenium                                  | M     | mg/kg | 1   | < 1.0  | < 1.0  | n/t    | < 1.0 | < 1.0 | < 1.0 |
| Vanadium                                  | M     | mg/kg | 0.5 | 18.5   | 97.1   | n/t    | 25.0  | 38.9  | 49.0  |
| Zinc                                      | M     | mg/kg | 4.5 | 16.5   | 24.1   | n/t    | 43.8  | 22.2  | 17.4  |





## Results Summary

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|                    |            |            |            |            |            |            |
|--------------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference     | 346650     | 346651     | 346652     | 346653     | 346654     | 346655     |
| Customer Reference |            |            |            |            |            |            |
| Sample ID          |            |            |            |            |            |            |
| Sample Type        | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       |
| Sample Location    | WS09       | WS09       | WS08       | WS10       | WS11       | WS11       |
| Sample Depth (m)   | 0.10       | 0.80       | 1.00       | 0.10       | 0.20       | 0.80       |
| Sampling Date      | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 |

| Determinand                                   | Codes | Units    | LOD  |        |        |        |        |        |        |
|-----------------------------------------------|-------|----------|------|--------|--------|--------|--------|--------|--------|
| <b>Anions</b>                                 |       |          |      |        |        |        |        |        |        |
| Water Soluble Chloride                        | M     | mg/kg    | 40   | n/t    | 47     | n/t    | 42     | 45     | 56     |
| Water Soluble Sulphate                        | M     | g/l      | 0.02 | n/t    | 0.03   | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| <b>Inorganics</b>                             |       |          |      |        |        |        |        |        |        |
| Elemental Sulphur                             | M     | mg/kg    | 20   | n/t    | < 20   | n/t    | < 20   | < 20   | < 20   |
| Free Cyanide                                  | N     | mg/kg    | 1    | < 1.0  | n/t    | n/t    | n/t    | n/t    | n/t    |
| Hexavalent Chromium                           | N     | mg/kg    | 0.8  | < 0.8  | < 0.8  | n/t    | < 0.8  | < 0.8  | < 0.8  |
| Total Sulphide                                | N     | mg/kg    | 2    | n/t    | < 2    | n/t    | < 2    | < 2    | < 2    |
| Total Cyanide                                 | M     | mg/kg    | 1    | < 1.0  | < 1.0  | n/t    | < 1.0  | < 1.0  | < 1.0  |
| Total Sulphur                                 | N     | %        | 0.01 | n/t    | n/t    | 0.01   | n/t    | n/t    | n/t    |
| Acid Soluble Sulphate (SO4)                   | U     | %        | 0.02 | n/t    | < 0.02 | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Water Soluble Boron                           | N     | mg/kg    | 0.5  | 1.1    | 0.7    | n/t    | 0.8    | 0.7    | 0.6    |
| <b>Miscellaneous</b>                          |       |          |      |        |        |        |        |        |        |
| Acid Neutralisation Capacity                  | N     | mol/kg   | 0.1  | < 0.1  | n/t    | n/t    | n/t    | n/t    | n/t    |
| Loss on Ignition                              | M     | %        | 0.01 | 4.57   | n/t    | n/t    | n/t    | n/t    | n/t    |
| pH                                            | M     | pH units | 0.1  | 5.6    | 5.0    | 5.7    | 5.5    | 5.8    | 5.2    |
| Total Organic Carbon                          | N     | %        | 0.01 | 1.7    | 0.42   | n/t    | 1.3    | 1.2    | 0.25   |
| <b>Organics</b>                               |       |          |      |        |        |        |        |        |        |
| >C8-C10 BCB (EH_1D_Total)                     | N     | mg/kg    | 1    | < 1.0  | n/t    | n/t    | n/t    | n/t    | n/t    |
| Gas Range Organics (>C6-C10) (HS_1D_MS_Total) | N     | mg/kg    | 0.01 | < 0.01 | n/t    | n/t    | n/t    | n/t    | n/t    |



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|                    |            |            |            |            |            |            |
|--------------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference     | 346650     | 346651     | 346652     | 346653     | 346654     | 346655     |
| Customer Reference |            |            |            |            |            |            |
| Sample ID          |            |            |            |            |            |            |
| Sample Type        | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       |
| Sample Location    | WS09       | WS09       | WS08       | WS10       | WS11       | WS11       |
| Sample Depth (m)   | 0.10       | 0.80       | 1.00       | 0.10       | 0.20       | 0.80       |
| Sampling Date      | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 |

| Determinand                      | Codes | Units | LOD  |     |        |     |        |        |        |
|----------------------------------|-------|-------|------|-----|--------|-----|--------|--------|--------|
| <b>Phenols</b>                   |       |       |      |     |        |     |        |        |        |
| Phenol                           | M     | mg/kg | 1    | < 1 | n/t    | n/t | n/t    | n/t    | n/t    |
| M,P-Cresol                       | N     | mg/kg | 1    | < 1 | n/t    | n/t | n/t    | n/t    | n/t    |
| O-Cresol                         | N     | mg/kg | 1    | < 1 | n/t    | n/t | n/t    | n/t    | n/t    |
| 3,4-Dimethylphenol               | N     | mg/kg | 1    | < 1 | n/t    | n/t | n/t    | n/t    | n/t    |
| 2,3-Dimethylphenol               | M     | mg/kg | 1    | < 1 | n/t    | n/t | n/t    | n/t    | n/t    |
| 1-Naphthol                       | N     | mg/kg | 1    | < 1 | n/t    | n/t | n/t    | n/t    | n/t    |
| 2,3,5-trimethylphenol            | M     | mg/kg | 1    | < 1 | n/t    | n/t | n/t    | n/t    | n/t    |
| Total Phenols                    | N     | mg/kg | 6    | < 6 | < 6    | n/t | < 6    | < 6    | < 6    |
| <b>Polyaromatic hydrocarbons</b> |       |       |      |     |        |     |        |        |        |
| Naphthalene                      | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Acenaphthylene                   | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Acenaphthene                     | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Fluorene                         | US    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Phenanthrene                     | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | 0.02   | < 0.02 |
| Anthracene                       | US    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Fluoranthene                     | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | 0.08   | < 0.02 |
| Pyrene                           | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | 0.07   | < 0.02 |
| Benzo(a)anthracene               | US    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | 0.02   | < 0.02 |
| Chrysene                         | MS    | mg/kg | 0.02 | n/t | < 0.03 | n/t | < 0.03 | < 0.03 | < 0.03 |
| Benzo(b)fluoranthene             | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | 0.04   | < 0.02 |
| Benzo(k)fluoranthene             | MS    | mg/kg | 0.03 | n/t | < 0.03 | n/t | < 0.03 | < 0.03 | < 0.03 |
| Benzo(a)pyrene                   | US    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | 0.04   | < 0.02 |
| Indeno(1,2,3-cd)pyrene           | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Dibenzo(a,h)anthracene           | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Benzo(g,h,i)perylene             | MS    | mg/kg | 0.02 | n/t | < 0.02 | n/t | < 0.02 | < 0.02 | < 0.02 |
| Total PAH(16)                    | NS    | mg/kg | 0.34 | n/t | < 0.34 | n/t | < 0.34 | < 0.34 | < 0.34 |
| Total (of 17) PAHs               | N     | mg/kg | 2    | < 2 | n/t    | n/t | n/t    | n/t    | n/t    |



## Results Summary

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| ELAB Reference                                     |       |       |       | 346650     | 346651     | 346652     | 346653     | 346654     | 346655     |
|----------------------------------------------------|-------|-------|-------|------------|------------|------------|------------|------------|------------|
| Customer Reference                                 |       |       |       |            |            |            |            |            |            |
| Sample ID                                          |       |       |       |            |            |            |            |            |            |
| Sample Type                                        |       |       |       | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       |
| Sample Location                                    |       |       |       | WS09       | WS09       | WS08       | WS10       | WS11       | WS11       |
| Sample Depth (m)                                   |       |       |       | 0.10       | 0.80       | 1.00       | 0.10       | 0.20       | 0.80       |
| Sampling Date                                      |       |       |       | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 |
| Determinand                                        | Codes | Units | LOD   |            |            |            |            |            |            |
| <b>BTEX</b>                                        |       |       |       |            |            |            |            |            |            |
| Benzene                                            | M     | ug/kg | 10    | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     |
| Toluene                                            | M     | ug/kg | 10    | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     |
| Ethylbenzene                                       | M     | ug/kg | 10    | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     |
| Xylenes                                            | M     | ug/kg | 10    | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     |
| MTBE                                               | N     | ug/kg | 10    | n/t        | < 10.0     | n/t        | < 10.0     | < 10.0     | < 10.0     |
| Total BTEX                                         | M     | mg/kg | 0.01  | < 0.01     | n/t        | n/t        | n/t        | n/t        | n/t        |
| <b>TPH CWG</b>                                     |       |       |       |            |            |            |            |            |            |
| >C5-C6 Aliphatic (HS_1D_MS_AL)                     | N     | mg/kg | 0.01  | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     |
| >C6-C8 Aliphatic (HS_1D_MS_AL)                     | N     | mg/kg | 0.01  | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     |
| >C8-C10 Aliphatic (EH_CU_1D_AL)                    | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C10-C12 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C12-C16 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | 1.5        | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C16-C21 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C21-C35 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | 6.1        | 5.6        | < 1.0      |
| >C35-C40 Aliphatic (EH_CU_1D_AL)                   | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| Total (>C5-C40) Aliphatic (HS_1D_MS+EH_CU_1D_AL)   | N     | mg/kg | 1     | < 1.0      | 1.5        | n/t        | 6.1        | 5.6        | < 1.0      |
| >C5-C7 Aromatic (HS_1D_MS_AR)                      | N     | mg/kg | 0.01  | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     |
| >C7-C8 Aromatic (HS_1D_MS_AR)                      | N     | mg/kg | 0.01  | < 0.01     | < 0.01     | n/t        | < 0.01     | < 0.01     | < 0.01     |
| >C8-C10 Aromatic (EH_CU_1D_AR)                     | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C10-C12 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C12-C16 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C16-C21 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C21-C35 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| >C35-C40 Aromatic (EH_CU_1D_AR)                    | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| Total (>C5-C40) Aromatic (HS_1D_MS+EH_CU_1D_AR)    | N     | mg/kg | 1     | < 1.0      | < 1.0      | n/t        | < 1.0      | < 1.0      | < 1.0      |
| Total (>C5-C40) Alii/Aro (HS_1D_MS+EH_CU_1D_Total) | N     | mg/kg | 1     | < 1.0      | 1.5        | n/t        | 6.1        | 5.6        | < 1.0      |
| <b>Total Petroleum Hydrocarbons</b>                |       |       |       |            |            |            |            |            |            |
| Mineral Oil w Florisil (EH_CU_1D_Total)            | N     | mg/kg | 5     | < 5        | n/t        | n/t        | n/t        | n/t        | n/t        |
| Total TPH w Silica (>C8-C40) (EH_CU_1D_Total)      | N     | mg/kg | 5     | < 5        | n/t        | n/t        | n/t        | n/t        | n/t        |
| Total TPH (>C8-C40) (EH_1D_Total)                  | N     | mg/kg | 5     | 5          | n/t        | n/t        | n/t        | n/t        | n/t        |
| Fuel type ID                                       | N     |       | 0.001 | n/a        | n/t        | n/t        | n/t        | n/t        | n/t        |

Tests marked N are not UKAS accredited.

The Environmental Laboratory Ltd. Reg. No. 3882193



## Results Summary

2683

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|                    |            |            |            |            |            |            |
|--------------------|------------|------------|------------|------------|------------|------------|
| ELAB Reference     | 346650     | 346651     | 346652     | 346653     | 346654     | 346655     |
| Customer Reference |            |            |            |            |            |            |
| Sample ID          |            |            |            |            |            |            |
| Sample Type        | SOIL       | SOIL       | SAND       | SOIL       | SOIL       | SOIL       |
| Sample Location    | WS09       | WS09       | WS08       | WS10       | WS11       | WS11       |
| Sample Depth (m)   | 0.10       | 0.80       | 1.00       | 0.10       | 0.20       | 0.80       |
| Sampling Date      | 22/11/2023 | 22/11/2023 | 22/11/2023 | 22/11/2023 | 21/11/2023 | 21/11/2023 |

| Determinand                      | Codes | Units | LOD  |        |     |     |      |     |     |
|----------------------------------|-------|-------|------|--------|-----|-----|------|-----|-----|
| <b>PCB (ICES 7 congeners)</b>    |       |       |      |        |     |     |      |     |     |
| PCB 28                           | N     | mg/kg | 0.01 | < 0.01 | n/t | n/t | n/t  | n/t | n/t |
| PCB 52                           | N     | mg/kg | 0.01 | < 0.01 | n/t | n/t | n/t  | n/t | n/t |
| PCB 101                          | N     | mg/kg | 0.01 | < 0.01 | n/t | n/t | n/t  | n/t | n/t |
| PCB 118                          | N     | mg/kg | 0.01 | < 0.01 | n/t | n/t | n/t  | n/t | n/t |
| PCB 153                          | N     | mg/kg | 0.01 | < 0.01 | n/t | n/t | n/t  | n/t | n/t |
| PCB 138                          | N     | mg/kg | 0.01 | < 0.01 | n/t | n/t | n/t  | n/t | n/t |
| PCB 180                          | N     | mg/kg | 0.01 | < 0.01 | n/t | n/t | n/t  | n/t | n/t |
| Total PCBs (7 congeners)         | N     | mg/kg | 0.03 | < 0.03 | n/t | n/t | n/t  | n/t | n/t |
| <b>OrganoChlorine Pesticides</b> |       |       |      |        |     |     |      |     |     |
| alpha-HCH                        | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| beta_HCH                         | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| gamma-HCH                        | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| delta-HCH                        | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| Heptachlor                       | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| Aldrin                           | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| Heptachlor expoxide              | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| trans-Chlordane                  | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| alpha cis-Chlordane              | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| p,p-DDE                          | N     | ug/kg | 10   | n/t    | n/t | n/t | 74   | n/t | n/t |
| Dieldrin                         | N     | ug/kg | 10   | n/t    | n/t | n/t | 140  | n/t | n/t |
| Endrin                           | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| p,p-DDD                          | N     | ug/kg | 10   | n/t    | n/t | n/t | 110  | n/t | n/t |
| Endosulfan II                    | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| Endrin aldehyde                  | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| p,p-DDT                          | N     | ug/kg | 10   | n/t    | n/t | n/t | 130  | n/t | n/t |
| Endosulphan sulphate             | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| Methoxychlor                     | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |
| Endrin ketone                    | N     | ug/kg | 10   | n/t    | n/t | n/t | < 10 | n/t | n/t |



## Results Summary

Report No.: 23-51317, issue number 1a

### WAC Analysis

| Elab Ref:                      | 346650                   |      |        |  |        | Landfill Waste Acceptance Criteria Limits* |                                                               |                          |
|--------------------------------|--------------------------|------|--------|--|--------|--------------------------------------------|---------------------------------------------------------------|--------------------------|
| Sample Date:                   | 22/11/2023               |      |        |  |        | Inert Waste Landfill                       | Stable Non-reactive Hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Sample ID:                     | WS09                     |      |        |  |        |                                            |                                                               |                          |
| Depth (m)                      | 0.1                      |      |        |  |        |                                            |                                                               |                          |
| Site:                          | West End Road, Burlesdon |      |        |  |        |                                            |                                                               |                          |
|                                |                          |      |        |  |        |                                            |                                                               |                          |
| Determinand                    |                          | Code | Units  |  |        |                                            |                                                               |                          |
| Total Organic Carbon           |                          | N    | %      |  | 1.70   | 3                                          | 5                                                             | 6                        |
| Loss on Ignition               |                          | M    | %      |  | 4.6    | --                                         | --                                                            | 10                       |
| Total BTEX                     |                          | M    | mg/kg  |  | < 0.01 | 6                                          | --                                                            | --                       |
| Total PCBs (7 congeners)       |                          | N    | mg/kg  |  | < 0.03 | 1                                          | --                                                            | --                       |
| TPH Total WAC (EH_CU_1D_Total) |                          | N    | mg/kg  |  | < 5    | 500                                        | --                                                            | --                       |
| Total (of 17) PAHs             |                          | N    | mg/kg  |  | < 2    | 100                                        | --                                                            | --                       |
| pH                             |                          | M    |        |  | 5.6    | --                                         | >6                                                            | --                       |
| Acid Neutralisation Capacity   |                          | N    | mol/kg |  | < 0.1  | --                                         | To evaluate                                                   | To evaluate              |

### Eluate Analysis

|                          |  |   | 10:1    | 10:1   | Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg |       |        |
|--------------------------|--|---|---------|--------|------------------------------------------------------------------------------|-------|--------|
|                          |  |   | mg/l    | mg/kg  |                                                                              |       |        |
| Arsenic                  |  | N | < 0.005 | < 0.05 | 0.5                                                                          | 2     | 25     |
| Barium                   |  | N | < 0.005 | < 0.05 | 20                                                                           | 100   | 300    |
| Cadmium                  |  | N | < 0.001 | < 0.01 | 0.04                                                                         | 1     | 5      |
| Chromium                 |  | N | < 0.005 | < 0.05 | 0.5                                                                          | 10    | 70     |
| Copper                   |  | N | < 0.005 | < 0.05 | 2                                                                            | 50    | 100    |
| Mercury                  |  | N | < 0.005 | < 0.01 | 0.01                                                                         | 0.2   | 2      |
| Molybdenum               |  | N | < 0.005 | < 0.05 | 0.5                                                                          | 10    | 30     |
| Nickel                   |  | N | < 0.001 | < 0.05 | 0.4                                                                          | 10    | 40     |
| Lead                     |  | N | < 0.001 | < 0.05 | 0.5                                                                          | 10    | 50     |
| Antimony                 |  | N | < 0.005 | < 0.05 | 0.06                                                                         | 0.7   | 5      |
| Selenium                 |  | N | < 0.005 | < 0.05 | 0.1                                                                          | 0.5   | 7      |
| Zinc                     |  | N | 0.006   | 0.06   | 4                                                                            | 50    | 200    |
| Chloride                 |  | N | 1       | < 50   | 800                                                                          | 15000 | 25000  |
| Fluoride                 |  | N | < 0     | < 10   | 10                                                                           | 150   | 500    |
| Sulphate                 |  | N | 1       | < 10.0 | 1000                                                                         | 20000 | 50000  |
| Total Dissolved Solids   |  | N | < 10    | < 100  | 4000                                                                         | 60000 | 100000 |
| Phenol Index             |  | N | < 0.01  | < 0.10 | 1                                                                            | -     | -      |
| Dissolved Organic Carbon |  | N |         | 253.00 | 500                                                                          | 800   | 1000   |

### Leach Test Information

|                              |  |   |         |  |  |  |  |
|------------------------------|--|---|---------|--|--|--|--|
| pH                           |  | N | 7.0     |  |  |  |  |
| Conductivity (uS/cm)         |  | N | < 50    |  |  |  |  |
| Dry mass of test portion (g) |  |   | 104.000 |  |  |  |  |
| Dry Matter (%)               |  |   | 83      |  |  |  |  |
| Moisture (%)                 |  |   | 20      |  |  |  |  |
| Eluent Volume (ml)           |  |   | 994     |  |  |  |  |

Results are expressed on a dry weight basis, after correction for moisture content where applicable

\* Stated limits are for guidance only, and not for conformity assessment.

## Results Summary

Report No.: 23-51317, issue number 1a

### WAC Analysis

| Elab Ref:                      | 346645                   |      |        |  |        | Landfill Waste Acceptance Criteria Limits* |                                                               |                          |
|--------------------------------|--------------------------|------|--------|--|--------|--------------------------------------------|---------------------------------------------------------------|--------------------------|
| Sample Date:                   | 22/11/2023               |      |        |  |        | Inert Waste Landfill                       | Stable Non-reactive Hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Sample ID:                     | WS05                     |      |        |  |        |                                            |                                                               |                          |
| Depth (m)                      | 0.5                      |      |        |  |        |                                            |                                                               |                          |
| Site:                          | West End Road, Burlesdon |      |        |  |        |                                            |                                                               |                          |
|                                |                          |      |        |  |        |                                            |                                                               |                          |
| Determinand                    |                          | Code | Units  |  |        |                                            |                                                               |                          |
| Total Organic Carbon           |                          | N    | %      |  | 0.42   | 3                                          | 5                                                             | 6                        |
| Loss on Ignition               |                          | M    | %      |  | 2.3    | --                                         | --                                                            | 10                       |
| Total BTEX                     |                          | M    | mg/kg  |  | < 0.01 | 6                                          | --                                                            | --                       |
| Total PCBs (7 congeners)       |                          | N    | mg/kg  |  | < 0.03 | 1                                          | --                                                            | --                       |
| TPH Total WAC (EH_CU_1D_Total) |                          | N    | mg/kg  |  | < 5    | 500                                        | --                                                            | --                       |
| Total (of 17) PAHs             |                          | N    | mg/kg  |  | < 2    | 100                                        | --                                                            | --                       |
| pH                             |                          | M    |        |  | 5.9    | --                                         | >6                                                            | --                       |
| Acid Neutralisation Capacity   |                          | N    | mol/kg |  | < 0.1  | --                                         | To evaluate                                                   | To evaluate              |

### Eluate Analysis

|                          |  |   | 10:1    | 10:1   | Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg |       |        |
|--------------------------|--|---|---------|--------|------------------------------------------------------------------------------|-------|--------|
|                          |  |   | mg/l    | mg/kg  |                                                                              |       |        |
| Arsenic                  |  | N | < 0.005 | < 0.05 | 0.5                                                                          | 2     | 25     |
| Barium                   |  | N | < 0.005 | < 0.05 | 20                                                                           | 100   | 300    |
| Cadmium                  |  | N | < 0.001 | < 0.01 | 0.04                                                                         | 1     | 5      |
| Chromium                 |  | N | < 0.005 | < 0.05 | 0.5                                                                          | 10    | 70     |
| Copper                   |  | N | < 0.005 | < 0.05 | 2                                                                            | 50    | 100    |
| Mercury                  |  | N | < 0.005 | < 0.01 | 0.01                                                                         | 0.2   | 2      |
| Molybdenum               |  | N | < 0.005 | < 0.05 | 0.5                                                                          | 10    | 30     |
| Nickel                   |  | N | < 0.001 | < 0.05 | 0.4                                                                          | 10    | 40     |
| Lead                     |  | N | < 0.001 | < 0.05 | 0.5                                                                          | 10    | 50     |
| Antimony                 |  | N | < 0.005 | < 0.05 | 0.06                                                                         | 0.7   | 5      |
| Selenium                 |  | N | < 0.005 | < 0.05 | 0.1                                                                          | 0.5   | 7      |
| Zinc                     |  | N | < 0.005 | < 0.05 | 4                                                                            | 50    | 200    |
| Chloride                 |  | N | 1       | < 50   | 800                                                                          | 15000 | 25000  |
| Fluoride                 |  | N | < 0     | < 10   | 10                                                                           | 150   | 500    |
| Sulphate                 |  | N | 0       | < 10.0 | 1000                                                                         | 20000 | 50000  |
| Total Dissolved Solids   |  | N | < 10    | < 100  | 4000                                                                         | 60000 | 100000 |
| Phenol Index             |  | N | < 0.01  | < 0.10 | 1                                                                            | -     | -      |
| Dissolved Organic Carbon |  | N |         | 211.00 | 500                                                                          | 800   | 1000   |

### Leach Test Information

|                              |  |   |         |  |  |  |  |
|------------------------------|--|---|---------|--|--|--|--|
| pH                           |  | N | 7.5     |  |  |  |  |
| Conductivity (uS/cm)         |  | N | < 50    |  |  |  |  |
| Dry mass of test portion (g) |  |   | 103.000 |  |  |  |  |
| Dry Matter (%)               |  |   | 85      |  |  |  |  |
| Moisture (%)                 |  |   | 17      |  |  |  |  |
| Eluent Volume (ml)           |  |   | 986     |  |  |  |  |

Results are expressed on a dry weight basis, after correction for moisture content where applicable

\* Stated limits are for guidance only, and not for conformity assessment.



Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards on Sea, East Sussex, TN38 9BY

Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

## Results Summary

Report No.: 23-51317, issue number 1a

### Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

| Elab No | Depth (m) | Clients Reference | Description of Sample Matrix #        | Asbestos Identification | Gravimetric Analysis Total (%) | Gravimetric Analysis by ACM Type (%) | Free Fibre Analysis (%) | Total Asbestos (%) |
|---------|-----------|-------------------|---------------------------------------|-------------------------|--------------------------------|--------------------------------------|-------------------------|--------------------|
| 346638  | 0.30      | WS01              | Brown Soil, Stones, Clinker           | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346640  | 0.20      | WS02              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346641  | 0.10      | WS03              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346642  | 0.50      | WS03              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346644  | 0.10      | WS05              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346645  | 0.50      | WS05              | Brown Soil, Stones, Clinker           | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346646  | 0.10      | WS06              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346647  | 0.80      | WS07              | Brown Soil, Stones                    | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346649  | 0.10      | WS08              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346650  | 0.10      | WS09              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346651  | 0.80      | WS09              | Brown Soil, Stones                    | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346653  | 0.10      | WS10              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346654  | 0.20      | WS11              | Brown Soil, Stones, Clinker, Organics | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |
| 346655  | 0.80      | WS11              | Grey/ Red Soil                        | No asbestos detected    | n/t                            | n/t                                  | n/t                     | n/t                |

## Method Summary

Report No.: 23-51317, issue number 1a

| Parameter                               | Codes | Analysis Undertaken On | Date Tested | Method Number | Technique          |
|-----------------------------------------|-------|------------------------|-------------|---------------|--------------------|
| <b>Soil</b>                             |       |                        |             |               |                    |
| Gas range organics in soil              | N     | As submitted sample    | 06/12/2023  |               | GC-MS              |
| Free cyanide                            | N     | As submitted sample    | 06/12/2023  | 107           | Colorimetry        |
| Sulphide                                | N     | As submitted sample    | 30/11/2023  | 109           | Colorimetry        |
| Hexavalent chromium                     | N     | As submitted sample    | 04/12/2023  | 110           | Colorimetry        |
| Acid Soluble Sulphate                   | U     | Air dried sample       | 05/12/2023  | 115           | Ion Chromatography |
| Total Petroleum Hydrocarbons in solids  | N     | As submitted sample    | 30/11/2023  | 117           | GC-FID             |
| Phenols in solids                       | M     | As submitted sample    | 01/12/2023  | 121           | HPLC               |
| Elemental Sulphur                       | M     | Air dried sample       | 30/11/2023  | 122           | HPLC               |
| PAH (GC-FID)                            | N     | As submitted sample    | 30/11/2023  | 133           | GC-FID             |
| Water soluble anions                    | M     | Air dried sample       | 30/11/2023  | 172           | Ion Chromatography |
| Organochlorine Pesticides in solids     | N     | As submitted sample    | 30/11/2023  | 173           | GC-MS              |
| Low range Aliphatic hydrocarbons soil   | N     | As submitted sample    | 06/12/2023  | 181           | GC-MS              |
| Low range Aromatic hydrocarbons soil    | N     | As submitted sample    | 06/12/2023  | 181           | GC-MS              |
| Water soluble boron                     | N     | Air dried sample       | 30/11/2023  | 202           | Colorimetry        |
| Total cyanide                           | M     | As submitted sample    | 04/12/2023  | 204           | Colorimetry        |
| Aliphatic hydrocarbons in soil          | N     | As submitted sample    | 30/11/2023  | 214           | GC-FID             |
| Aliphatic/Aromatic hydrocarbons in soil | N     | As submitted sample    | 06/12/2023  | 214           | GC-FID             |
| Aromatic hydrocarbons in soil           | N     | As submitted sample    | 04/12/2023  | 214           | GC-FID             |
| Basic carbon banding in soil            | N     | As submitted sample    | 30/11/2023  | 218           | GC-FID             |
| Asbestos identification                 | U     | Air dried sample       | 01/12/2023  | 281           | Microscopy         |
| Aqua regia extractable metals           | M     | Air dried sample       | 30/11/2023  | 300           | ICPMS              |
| TPH with Silica clean up solids         | N     | As submitted sample    | 30/11/2023  | GCL117        | GC-FID             |
| <b>Leachate</b>                         |       |                        |             |               |                    |
| Arsenic                                 | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Cadmium                                 | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Chromium                                | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Lead                                    | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Nickel                                  | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Copper                                  | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Zinc                                    | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Mercury                                 | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Selenium                                | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Antimony                                | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Barium                                  | N     |                        | 06/12/2023  | 301           | ICPMS              |
| Molybdenum                              | N     |                        | 06/12/2023  | 301           | ICPMS              |
| pH Value                                | N     |                        | 06/12/2023  | 113           | Electrometric      |
| Electrical Conductivity                 | N     |                        | 06/12/2023  | 136           | Probe              |
| Dissolved Organic Carbon                | N     |                        | 06/12/2023  | 102           | TOC analyser       |
| Chloride                                | N     |                        | 06/12/2023  | 270           | Ion Chromatography |
| Fluoride                                | N     |                        | 06/12/2023  | 270           | Ion Chromatography |
| Sulphate                                | N     |                        | 06/12/2023  | 270           | Ion Chromatography |
| Total Dissolved Solids                  | N     |                        | 06/12/2023  | 144           | Gravimetric        |
| Phenol index                            | N     |                        | 06/12/2023  | 121           | HPLC               |
| <b>WAC Solids analysis</b>              | N     |                        |             |               |                    |
| pH                                      | M     | Air dried sample       | 05/12/2023  | 113           | Electrometric      |
| Total Organic Carbon                    | N     | Air dried sample       | 30/11/2023  | 210           | IR                 |
| Loss on Ignition                        | M     | Air dried sample       | 04/12/2023  | 129           | Gravimetric        |
| Acid Neutralisation Capacity            | N     | Air dried sample       | 05/12/2023  | NEN 737       | Electrometric      |
| Total BTEX                              | M     | As submitted sample    | 06/12/2023  | 181           | GCMS               |
| Mineral Oil (EH_CU_1D_Total)            | N     | As submitted sample    | 30/11/2023  | 117           | GCFID              |
| Total PCBs (7 congeners)                | N     | Air dried sample       | 01/12/2023  | 120           | GCMS               |
| Total (of 17) PAHs                      | N     | As submitted sample    | 06/12/2023  | 133           | GCFID              |

Tests marked N are not UKAS accredited



## Report Information

Report No.: 23-51317, issue number 1a

### Key

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U   | hold UKAS accreditation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| M   | hold MCERTS and UKAS accreditation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| N   | do not currently hold UKAS accreditation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ^   | MCERTS accreditation not applicable for sample matrix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| *   | UKAS accreditation not applicable for sample matrix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| S   | Subcontracted to approved laboratory UKAS Accredited for the test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SM  | Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NS  | Subcontracted to approved laboratory. UKAS accreditation is not applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| I/S | Insufficient Sample                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| U/S | Unsuitable sample                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| n/t | Not tested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <   | means "less than"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| >   | means "greater than"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LOD | <p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at &lt; 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report. The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p> |

### Deviation Codes

|   |                                                          |
|---|----------------------------------------------------------|
| a | No date of sampling supplied                             |
| b | No time of sampling supplied (Waters Only)               |
| c | Sample not received in appropriate containers            |
| d | Sample not received in cooled condition                  |
| e | The container has been incorrectly filled                |
| f | Sample age exceeds stability time (sampling to receipt)  |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

### Sample Retention and Disposal

All soil samples will be retained for a period of one month  
 All water samples will be retained for 7 days following the date of the test report  
 Charges may apply to extended sample storage

### TPH Classification - HWOL Acronym System

|       |                                                                     |
|-------|---------------------------------------------------------------------|
| HS    | Headspace analysis                                                  |
| EH    | Extractable Hydrocarbons - i.e. everything extracted by the solvent |
| CU    | Clean-up - e.g. by florisil, silica gel                             |
| 1D    | GC - Single coil gas chromatography                                 |
| Total | Aliphatics & Aromatics                                              |
| AL    | Aliphatics only                                                     |
| AR    | Aromatics only                                                      |
| 2D    | GC-GC - Double coil gas chromatography                              |
| #1    | EH_Total but with humics mathematically subtracted                  |
| #2    | EH_Total but with fatty acids mathematically subtracted             |
| _     | Operator - underscore to separate acronyms (exception for +)        |
| +     | Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total  |
| MS    | Mass Spectrometry                                                   |

# Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



4HUCY-B5OW2-Q0WAJ

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in **pale yellow**.

## Job name

GE22135 - West End Road, Bursledon

## Description/Comments

HWOL\_23-51317\_20231211

## Project

GE22135

## Site

West End Road, Bursledon

## Classified by

Name: **Anthony Potter**  
 Date: **19 Dec 2023 10:47 GMT**  
 Telephone: **01273832972**  
 Company: **Geo-Environmental Services**  
**Unit 7, Danworth Farm, Cuckfield Road**  
**Hurstpierpoint**  
**BN6 9GL**

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

**HazWasteOnline™ Certification:**

**CERTIFIED**

**Course**  
 Hazardous Waste Classification

**Date**  
 06 Oct 2022

Next 3 year Refresher due by Oct 2025

## Purpose of classification

2 - Material Characterisation

## Address of the waste

West End Road, Bursledon, Hampshire

**Post Code** SO31 8BN

## SIC for the process giving rise to the waste

41201 Construction of commercial buildings

## Description of industry/producer giving rise to the waste

redevelopment of paddocks and farmyard for a commercial development

## Description of the specific process, sub-process and/or activity that created the waste

Waste created during the construction of commercial buildings.

## Description of the waste

**TOPSOIL:** Dark brown slightly sandy, slightly clayey gravelly silt. Gravel is fine to medium, sub-angular of flint. Occasional to frequent rootlets.

**MADE GROUND:** Dark brown to black slightly sandy, slightly gravelly silt. Gravel is fine to medium, sub-rounded to sub-angular flint. Gravel sized clasts of brick and tarmacadam.

**RIVER TERRACE DEPOSITS:** medium dense to very dense dark brown, brown and orangish brown sandy GRAVEL, slightly clayey sandy GRAVEL, very sandy GRAVEL and slightly clayey SAND and GRAVEL. Firm to very stiff orangish brown and grey mottled sandy gravelly CLAY, gravelly CLAY and sandy CLAY. Sand is fine, gravel is fine to coarse, sub-rounded to sub-angular flint. Medium dense orangish brown and light greyish brown slightly gravelly clayey SAND and clayey SAND.

## Job summary

| #  | Sample name          | Depth [m] | Classification Result | Hazard properties | WAC Results |       |           | Page |
|----|----------------------|-----------|-----------------------|-------------------|-------------|-------|-----------|------|
|    |                      |           |                       |                   | Inert       | SNRHW | Hazardous |      |
| 1  | WS01-0.30-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 3    |
| 2  | WS02-0.20-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 6    |
| 3  | WS03-0.10-21/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 9    |
| 4  | WS03-0.50-21/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 12   |
| 5  | WS05-0.10-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 14   |
| 6  | WS05-0.50-22/11/2023 |           | Non Hazardous         |                   | Pass        | Fail  | N/A       | 17   |
| 7  | WS06-0.10-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 21   |
| 8  | WS07-0.80-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 24   |
| 9  | WS08-0.10-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 27   |
| 10 | WS09-0.10-22/11/2023 |           | Non Hazardous         |                   | Pass        | Fail  | N/A       | 30   |
| 11 | WS09-0.80-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 34   |
| 12 | WS10-0.10-22/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 37   |
| 13 | WS11-0.20-21/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 40   |
| 14 | WS11-0.80-21/11/2023 |           | Non Hazardous         |                   | -           | -     | -         | 43   |

## Related documents

| # | Name                                                 | Description                                   |
|---|------------------------------------------------------|-----------------------------------------------|
| 1 | HWOL_23-51317_20231211.HWOL                          | ELAB .hwol file used to populate the Job      |
| 2 | Example waste stream template for contaminated soils | waste stream template used to create this Job |

## WAC results

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate the samples in this Job: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

## Report

Created by: Anthony Potter

Created date: 19 Dec 2023 10:47 GMT

| Appendices                                                                 | Page |
|----------------------------------------------------------------------------|------|
| <a href="#">Appendix A: Classifier defined and non GB MCL determinands</a> | 45   |
| <a href="#">Appendix B: Rationale for selection of metal species</a>       | 47   |
| <a href="#">Appendix C: Version</a>                                        | 48   |

Classification of sample: WS01-0.30--22/11/2023

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                              |                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------|
| Sample name:                 | LoW Code:                                                                                 |
| <b>WS01-0.30--22/11/2023</b> | Chapter:                                                                                  |
| Moisture content:            | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| <b>15%</b>                   | Entry:                                                                                    |
| (wet weight correction)      | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |

**Hazard properties**

None identified

**Determinands**

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                              |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                      | EC Number | CAS Number |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                             |           |            |          | 16.4              | mg/kg | 1.32         | 18.405         | mg/kg | 0.00184 %            | ✓          |                |
|    | 033-003-00-0                                                                                                                                             | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |            |                |
| 2  | beryllium { beryllium oxide }                                                                                                                            |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |            | <LOD           |
|    | 004-003-00-8                                                                                                                                             | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |            |                |
| 3  | boron { diboron trioxide }                                                                                                                               |           |            |          | 0.8               | mg/kg | 3.22         | 2.19           | mg/kg | 0.000219 %           | ✓          |                |
|    | 005-008-00-8                                                                                                                                             | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |            |                |
| 4  | cadmium { cadmium oxide }                                                                                                                                |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |            | <LOD           |
|    | 048-002-00-0                                                                                                                                             | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |            |                |
| 5  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |           |            |          | 26.8              | mg/kg | 1.462        | 33.294         | mg/kg | 0.00333 %            | ✓          |                |
|    |                                                                                                                                                          | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |            | <LOD           |
|    | 024-017-00-8                                                                                                                                             |           |            |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                              |           |            |          | 18.2              | mg/kg | 1.126        | 17.417         | mg/kg | 0.00174 %            | ✓          |                |
|    | 029-002-00-X                                                                                                                                             | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead chromate }                                                                                                                                   |           |            | 1        | 27.3              | mg/kg | 1.56         | 36.196         | mg/kg | 0.00232 %            | ✓          |                |
|    | 082-004-00-2                                                                                                                                             | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                           |           |            |          | 0.1               | mg/kg | 1.353        | 0.115          | mg/kg | 0.0000115 %          | ✓          |                |
|    | 080-010-00-X                                                                                                                                             | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |            |                |
| 10 | nickel { nickel chromate }                                                                                                                               |           |            |          | 7.1               | mg/kg | 2.976        | 17.962         | mg/kg | 0.0018 %             | ✓          |                |
|    | 028-035-00-7                                                                                                                                             | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |            |                |
| 11 | selenium { nickel selenate }                                                                                                                             |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |            | <LOD           |
|    | 028-031-00-5                                                                                                                                             | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |            |                |
| 12 | zinc { zinc chromate }                                                                                                                                   |           |            |          | 60.4              | mg/kg | 2.774        | 142.425        | mg/kg | 0.0142 %             | ✓          |                |
|    | 024-007-00-3                                                                                                                                             | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                                                                          |           |            |          | 33                | mg/kg |              | 28.05          | mg/kg | 0.00281 %            | ✓          |                |
|    |                                                                                                                                                          |           | TPH        |          |                   |       |              |                |       |                      |            |                |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 603-181-00-X                                                                                                                                             | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |            |                |
| 15 | benzene                                                                                                                                                  |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 601-020-00-8                                                                                                                                             | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |            |                |
| 16 | toluene                                                                                                                                                  |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 601-021-00-3                                                                                                                                             | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |            |                |



| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20     | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 7.7 pH            |              | 7.7 pH         | 7.7 pH      |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            |                                                                  | 208-96-8                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              |                                                                  | 83-32-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  |                                                                  | 86-73-7                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              |                                                                  | 85-01-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                |                                                                  | 120-12-7                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              |                                                                  | 206-44-0                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    |                                                                  | 129-00-0                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      |                                                                  | 193-39-5                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        |                                                                  | 191-24-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 51.9 mg/kg        | 1.785        | 78.753 mg/kg   | 0.00788 %   | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |             | 0.039 %              |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

---

### Supplementary Hazardous Property Information

---

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because No free phase liquid, to lower concentration to be flammable

Hazard Statements hit:

---

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

---

TPH (C6 to C40) petroleum group: (conc.: 0.00281%)

**Classification of sample: WS02-0.20--22/11/2023**

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                                         |                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|
| Sample name:                            | LoW Code:                                                                                          |
| <b>WS02-0.20--22/11/2023</b>            | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content:                       | Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                           |
| <b>11.7%</b><br>(wet weight correction) |                                                                                                    |

**Hazard properties**

None identified

**Determinands**

Moisture content: 11.7% Wet Weight Moisture Correction applied (MC)

| #  |                                                                                     | Determinand                                                                                                                                             |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    |                                                                                     | EU CLP index number                                                                                                                                     | EC Number | CAS Number |          |                   |       |              |                |       |                      |            |                |
| 1  |  | arsenic { arsenic trioxide }                                                                                                                            |           |            |          | 9.5               | mg/kg | 1.32         | 11.076         | mg/kg | 0.00111 %            | ✓          |                |
|    |                                                                                     | 033-003-00-0                                                                                                                                            | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |            |                |
| 2  |  | beryllium { beryllium oxide }                                                                                                                           |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |            | <LOD           |
|    |                                                                                     | 004-003-00-8                                                                                                                                            | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |            |                |
| 3  |  | boron { diboron trioxide }                                                                                                                              |           |            |          | 0.8               | mg/kg | 3.22         | 2.275          | mg/kg | 0.000227 %           | ✓          |                |
|    |                                                                                     | 005-008-00-8                                                                                                                                            | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |            |                |
| 4  |  | cadmium { cadmium oxide }                                                                                                                               |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |            | <LOD           |
|    |                                                                                     | 048-002-00-0                                                                                                                                            | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |            |                |
| 5  |  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                |           |            |          | 15.8              | mg/kg | 1.462        | 20.391         | mg/kg | 0.00204 %            | ✓          |                |
|    |                                                                                     |                                                                                                                                                         | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |            |                |
| 6  |  | chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |            | <LOD           |
|    |                                                                                     | 024-017-00-8                                                                                                                                            |           |            |          |                   |       |              |                |       |                      |            |                |
| 7  |  | copper { dicopper oxide; copper (I) oxide }                                                                                                             |           |            |          | 14.3              | mg/kg | 1.126        | 14.216         | mg/kg | 0.00142 %            | ✓          |                |
|    |                                                                                     | 029-002-00-X                                                                                                                                            | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |            |                |
| 8  |  | lead { lead chromate }                                                                                                                                  |           |            | 1        | 92.9              | mg/kg | 1.56         | 127.953        | mg/kg | 0.0082 %             | ✓          |                |
|    |                                                                                     | 082-004-00-2                                                                                                                                            | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |            |                |
| 9  |  | mercury { mercury dichloride }                                                                                                                          |           |            |          | 0.1               | mg/kg | 1.353        | 0.12           | mg/kg | 0.000012 %           | ✓          |                |
|    |                                                                                     | 080-010-00-X                                                                                                                                            | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |            |                |
| 10 |  | nickel { nickel chromate }                                                                                                                              |           |            |          | 6.2               | mg/kg | 2.976        | 16.294         | mg/kg | 0.00163 %            | ✓          |                |
|    |                                                                                     | 028-035-00-7                                                                                                                                            | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |            |                |
| 11 |  | selenium { nickel selenate }                                                                                                                            |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |            | <LOD           |
|    |                                                                                     | 028-031-00-5                                                                                                                                            | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |            |                |
| 12 |  | zinc { zinc chromate }                                                                                                                                  |           |            |          | 50.8              | mg/kg | 2.774        | 124.438        | mg/kg | 0.0124 %             | ✓          |                |
|    |                                                                                     | 024-007-00-3                                                                                                                                            | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |            |                |
| 13 |  | TPH (C6 to C40) petroleum group                                                                                                                         |           |            |          | 45                | mg/kg |              | 39.735         | mg/kg | 0.00397 %            | ✓          |                |
|    |                                                                                     |                                                                                                                                                         |           | TPH        |          |                   |       |              |                |       |                      |            |                |
| 14 |                                                                                     | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 603-181-00-X                                                                                                                                            | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |            |                |
| 15 |                                                                                     | benzene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 601-020-00-8                                                                                                                                            | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |            |                |
| 16 |                                                                                     | toluene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 601-021-00-3                                                                                                                                            | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |            |                |

| #  | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |              |                      |            |                |
| 17 | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
| 18 | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
| 19 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 %  |                      |            | <LOD           |
| 20 | pH<br>PH                                                                                                                                                                                               |                                                                  |                                                              |          | 6.3 pH            |              | 6.3 pH         | 6.3 pH       |                      |            |                |
| 21 | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 22 | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 23 | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 24 | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 25 | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 26 | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 27 | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | 0.05 mg/kg        |              | 0.0442 mg/kg   | 0.00000441 % | ✓                    |            |                |
| 28 | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | 0.04 mg/kg        |              | 0.0353 mg/kg   | 0.00000353 % | ✓                    |            |                |
| 29 | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 30 | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 31 | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 32 | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 %  |                      |            | <LOD           |
| 33 | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | 0.03 mg/kg        |              | 0.0265 mg/kg   | 0.00000265 % | ✓                    |            |                |
| 34 | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 35 | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 36 | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 37 | DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane<br>602-045-00-7                                                                | 200-024-3                                                        | 50-29-3                                                      |          | 0.054 mg/kg       |              | 0.0477 mg/kg   | 0.00000477 % | ✓                    |            |                |
| 38 | chlordan (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan<br>602-047-00-8                                                                                                       | 200-349-0                                                        | 57-74-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 39 | hexachlorocyclohexanes, including lindane<br>602-043-00-6                                                                                                                                              | 210-168-9,<br>200-401-2,<br>206-270-8,<br>206-271-3              | 58-89-9,<br>319-84-6,<br>319-85-7,<br>608-73-1               |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 %  |                      |            | <LOD           |
| 40 | dieldrin (ISO)<br>602-049-00-9                                                                                                                                                                         | 200-484-5                                                        | 60-57-1                                                      |          | 0.062 mg/kg       |              | 0.0547 mg/kg   | 0.00000547 % | ✓                    |            |                |



| #      | Determinand                                                                                                                                                                    |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                            | EC Number | CAS Number |          |                   |              |                |                      |            |                |
| 41     | endrin (ISO);<br>1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene                                                                   |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|        | 602-051-00-X                                                                                                                                                                   | 200-775-7 | 72-20-8    |          |                   |              |                |                      |            |                |
| 42     | heptachlor (ISO);<br>1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene                                                                                          |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|        | 602-046-00-2                                                                                                                                                                   | 200-962-3 | 76-44-8    |          |                   |              |                |                      |            |                |
| 43     | aldrin (ISO)                                                                                                                                                                   |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|        | 602-048-00-3                                                                                                                                                                   | 206-215-8 | 309-00-2   |          |                   |              |                |                      |            |                |
| 44     | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                                                                         |           |            |          | 28.8 mg/kg        | 1.785        | 45.398 mg/kg   | 0.00454 %            | ✓          |                |
|        | 023-001-00-8                                                                                                                                                                   | 215-239-8 | 1314-62-1  |          |                   |              |                |                      |            |                |
| 45     | sulfur { sulfur }                                                                                                                                                              |           |            |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %             |            | <LOD           |
|        | 016-094-00-1                                                                                                                                                                   | 231-722-6 | 7704-34-9  |          |                   |              |                |                      |            |                |
| 46     | heptachlor epoxide;<br>2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane                                                                              |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|        | 602-063-00-5                                                                                                                                                                   | 213-831-0 | 1024-57-3  |          |                   |              |                |                      |            |                |
| 47     | p,p'-DDE                                                                                                                                                                       |           |            |          | 0.05 mg/kg        |              | 0.0442 mg/kg   | 0.00000441 %         | ✓          |                |
|        |                                                                                                                                                                                | 200-784-6 | 72-55-9    |          |                   |              |                |                      |            |                |
| 48     | p,p'-DDD                                                                                                                                                                       |           |            |          | 0.016 mg/kg       |              | 0.0141 mg/kg   | 0.00000141 %         | ✓          |                |
|        |                                                                                                                                                                                | 200-783-0 | 72-54-8    |          |                   |              |                |                      |            |                |
| 49     | p,p'-methoxychlor                                                                                                                                                              |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|        |                                                                                                                                                                                | 200-779-9 | 72-43-5    |          |                   |              |                |                      |            |                |
| 50     | endosulfan (ISO);<br>1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite;<br>1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite |           |            |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %          |            | <LOD           |
|        | 602-052-00-5                                                                                                                                                                   | 204-079-4 | 115-29-7   |          |                   |              |                |                      |            |                |
| Total: |                                                                                                                                                                                |           |            |          |                   |              |                | 0.0385 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
| ■           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| ■           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

**Supplementary Hazardous Property Information**

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because No free phase liquid, to lower concentration to be flammable

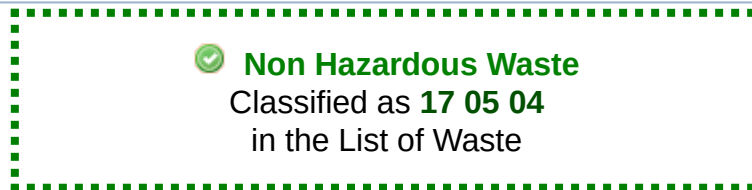
Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00397%)

Classification of sample: WS03-0.10--21/11/2023


**Sample details**

|                              |                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------|
| Sample name:                 | LoW Code:                                                                                 |
| <b>WS03-0.10--21/11/2023</b> | Chapter:                                                                                  |
| Moisture content:            | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| <b>8.8%</b>                  | Entry:                                                                                    |
| (wet weight correction)      | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |

**Hazard properties**

None identified

**Determinands**

Moisture content: 8.8% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                              |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                      | EC Number | CAS Number |          |                   |              |                |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                             |           |            |          | 7.4 mg/kg         | 1.32         | 8.911 mg/kg    | 0.000891 %           | ✓          |                |
|    | 033-003-00-0                                                                                                                                             | 215-481-4 | 1327-53-3  |          |                   |              |                |                      |            |                |
| 2  | beryllium { beryllium oxide }                                                                                                                            |           |            |          | <0.5 mg/kg        | 2.775        | <1.388 mg/kg   | <0.000139 %          |            | <LOD           |
|    | 004-003-00-8                                                                                                                                             | 215-133-1 | 1304-56-9  |          |                   |              |                |                      |            |                |
| 3  | boron { diboron trioxide }                                                                                                                               |           |            |          | 0.7 mg/kg         | 3.22         | 2.056 mg/kg    | 0.000206 %           | ✓          |                |
|    | 005-008-00-8                                                                                                                                             | 215-125-8 | 1303-86-2  |          |                   |              |                |                      |            |                |
| 4  | cadmium { cadmium oxide }                                                                                                                                |           |            |          | <0.2 mg/kg        | 1.142        | <0.228 mg/kg   | <0.0000228 %         |            | <LOD           |
|    | 048-002-00-0                                                                                                                                             | 215-146-2 | 1306-19-0  |          |                   |              |                |                      |            |                |
| 5  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |           |            |          | 18 mg/kg          | 1.462        | 23.993 mg/kg   | 0.0024 %             | ✓          |                |
|    |                                                                                                                                                          | 215-160-9 | 1308-38-9  |          |                   |              |                |                      |            |                |
| 6  | chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8 mg/kg        | 2.27         | <1.816 mg/kg   | <0.000182 %          |            | <LOD           |
|    | 024-017-00-8                                                                                                                                             |           |            |          |                   |              |                |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                              |           |            |          | 12.3 mg/kg        | 1.126        | 12.63 mg/kg    | 0.00126 %            | ✓          |                |
|    | 029-002-00-X                                                                                                                                             | 215-270-7 | 1317-39-1  |          |                   |              |                |                      |            |                |
| 8  | lead { lead chromate }                                                                                                                                   |           |            | 1        | 37 mg/kg          | 1.56         | 52.634 mg/kg   | 0.00337 %            | ✓          |                |
|    | 082-004-00-2                                                                                                                                             | 231-846-0 | 7758-97-6  |          |                   |              |                |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                           |           |            |          | 0.1 mg/kg         | 1.353        | 0.123 mg/kg    | 0.0000123 %          | ✓          |                |
|    | 080-010-00-X                                                                                                                                             | 231-299-8 | 7487-94-7  |          |                   |              |                |                      |            |                |
| 10 | nickel { nickel chromate }                                                                                                                               |           |            |          | 6.8 mg/kg         | 2.976        | 18.458 mg/kg   | 0.00185 %            | ✓          |                |
|    | 028-035-00-7                                                                                                                                             | 238-766-5 | 14721-18-7 |          |                   |              |                |                      |            |                |
| 11 | selenium { nickel selenate }                                                                                                                             |           |            |          | <1 mg/kg          | 2.554        | <2.554 mg/kg   | <0.000255 %          |            | <LOD           |
|    | 028-031-00-5                                                                                                                                             | 239-125-2 | 15060-62-5 |          |                   |              |                |                      |            |                |
| 12 | zinc { zinc chromate }                                                                                                                                   |           |            |          | 34 mg/kg          | 2.774        | 86.021 mg/kg   | 0.0086 %             | ✓          |                |
|    | 024-007-00-3                                                                                                                                             | 236-878-9 | 13530-65-9 |          |                   |              |                |                      |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                                                                          |           |            |          | 1.8 mg/kg         |              | 1.642 mg/kg    | 0.000164 %           | ✓          |                |
|    |                                                                                                                                                          |           | TPH        |          |                   |              |                |                      |            |                |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                 |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|    | 603-181-00-X                                                                                                                                             | 216-653-1 | 1634-04-4  |          |                   |              |                |                      |            |                |
| 15 | benzene                                                                                                                                                  |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|    | 601-020-00-8                                                                                                                                             | 200-753-7 | 71-43-2    |          |                   |              |                |                      |            |                |
| 16 | toluene                                                                                                                                                  |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|    | 601-021-00-3                                                                                                                                             | 203-625-9 | 108-88-3   |          |                   |              |                |                      |            |                |

| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20     | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 6.3 pH            |              | 6.3 pH         | 6.3 pH      |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            |                                                                  | 208-96-8                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              |                                                                  | 83-32-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  |                                                                  | 86-73-7                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              |                                                                  | 85-01-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                |                                                                  | 120-12-7                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              |                                                                  | 206-44-0                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    |                                                                  | 129-00-0                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      |                                                                  | 193-39-5                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        |                                                                  | 191-24-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 26.4 mg/kg        | 1.785        | 42.982 mg/kg   | 0.0043 %    | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |             | 0.0259 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

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### Supplementary Hazardous Property Information

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**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because No free phase liquid, to lower concentration to be flammable

Hazard Statements hit:

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**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

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TPH (C6 to C40) petroleum group: (conc.: 0.00016%)



**Classification of sample: WS03-0.50--21/11/2023**

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                                      |           |                                                                                           |
|--------------------------------------|-----------|-------------------------------------------------------------------------------------------|
| Sample name:                         | LoW Code: |                                                                                           |
| <b>WS03-0.50--21/11/2023</b>         | Chapter:  | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content:                    | Entry:    | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |
| <b>7%</b><br>(wet weight correction) |           |                                                                                           |

**Hazard properties**

None identified

**Determinands**

Moisture content: 7% Wet Weight Moisture Correction applied (MC)

| #  |                                                                                     | Determinand                                                                                                                                             |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    |                                                                                     | EU CLP index number                                                                                                                                     | EC Number | CAS Number |          |                   |       |              |                |       |                      |            |                |
| 1  |  | arsenic { arsenic trioxide }                                                                                                                            |           |            |          | 7.4               | mg/kg | 1.32         | 9.086          | mg/kg | 0.000909 %           | ✓          |                |
|    |                                                                                     | 033-003-00-0                                                                                                                                            | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |            |                |
| 2  |  | beryllium { beryllium oxide }                                                                                                                           |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |            | <LOD           |
|    |                                                                                     | 004-003-00-8                                                                                                                                            | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |            |                |
| 3  |  | boron { diboron trioxide }                                                                                                                              |           |            |          | 0.6               | mg/kg | 3.22         | 1.797          | mg/kg | 0.00018 %            | ✓          |                |
|    |                                                                                     | 005-008-00-8                                                                                                                                            | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |            |                |
| 4  |  | cadmium { cadmium oxide }                                                                                                                               |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |            | <LOD           |
|    |                                                                                     | 048-002-00-0                                                                                                                                            | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |            |                |
| 5  |  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                |           |            |          | 14.7              | mg/kg | 1.462        | 19.981         | mg/kg | 0.002 %              | ✓          |                |
|    |                                                                                     |                                                                                                                                                         | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |            |                |
| 6  |  | chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |            | <LOD           |
|    |                                                                                     | 024-017-00-8                                                                                                                                            |           |            |          |                   |       |              |                |       |                      |            |                |
| 7  |  | copper { dicopper oxide; copper (I) oxide }                                                                                                             |           |            |          | 7.6               | mg/kg | 1.126        | 7.958          | mg/kg | 0.000796 %           | ✓          |                |
|    |                                                                                     | 029-002-00-X                                                                                                                                            | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |            |                |
| 8  |  | lead { lead chromate }                                                                                                                                  |           |            | 1        | 16.5              | mg/kg | 1.56         | 23.935         | mg/kg | 0.00153 %            | ✓          |                |
|    |                                                                                     | 082-004-00-2                                                                                                                                            | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |            |                |
| 9  |  | mercury { mercury dichloride }                                                                                                                          |           |            |          | <0.1              | mg/kg | 1.353        | <0.135         | mg/kg | <0.0000135 %         |            | <LOD           |
|    |                                                                                     | 080-010-00-X                                                                                                                                            | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |            |                |
| 10 |  | nickel { nickel chromate }                                                                                                                              |           |            |          | 6.2               | mg/kg | 2.976        | 17.161         | mg/kg | 0.00172 %            | ✓          |                |
|    |                                                                                     | 028-035-00-7                                                                                                                                            | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |            |                |
| 11 |  | selenium { nickel selenate }                                                                                                                            |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |            | <LOD           |
|    |                                                                                     | 028-031-00-5                                                                                                                                            | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |            |                |
| 12 |  | zinc { zinc chromate }                                                                                                                                  |           |            |          | 16.3              | mg/kg | 2.774        | 42.053         | mg/kg | 0.00421 %            | ✓          |                |
|    |                                                                                     | 024-007-00-3                                                                                                                                            | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |            |                |
| 13 |  | TPH (C6 to C40) petroleum group                                                                                                                         |           |            |          | <1                | mg/kg |              | <1             | mg/kg | <0.0001 %            |            | <LOD           |
|    |                                                                                     |                                                                                                                                                         |           | TPH        |          |                   |       |              |                |       |                      |            |                |
| 14 |                                                                                     | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 603-181-00-X                                                                                                                                            | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |            |                |
| 15 |                                                                                     | benzene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 601-020-00-8                                                                                                                                            | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |            |                |
| 16 |                                                                                     | toluene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 601-021-00-3                                                                                                                                            | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20     | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 6.5 pH            |              | 6.5 pH         | 6.5 pH      |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 18.7 mg/kg        | 1.785        | 31.046 mg/kg   | 0.0031 %    | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |             | 0.0174 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

**Classification of sample: WS05-0.10--22/11/2023**

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                                         |                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|
| Sample name:                            | LoW Code:                                                                                          |
| <b>WS05-0.10--22/11/2023</b>            | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content:                       | Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                           |
| <b>13.1%</b><br>(wet weight correction) |                                                                                                    |

**Hazard properties**

None identified

**Determinands**

Moisture content: 13.1% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                              |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                      | EC Number | CAS Number |          |                   |              |                |              |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                             |           |            |          | 3.3 mg/kg         | 1.32         | 3.786 mg/kg    | 0.000379 %   | ✓                    |            |                |
|    | 033-003-00-0                                                                                                                                             | 215-481-4 | 1327-53-3  |          |                   |              |                |              |                      |            |                |
| 2  | beryllium { beryllium oxide }                                                                                                                            |           |            |          | <0.5 mg/kg        | 2.775        | <1.388 mg/kg   | <0.000139 %  |                      |            | <LOD           |
|    | 004-003-00-8                                                                                                                                             | 215-133-1 | 1304-56-9  |          |                   |              |                |              |                      |            |                |
| 3  | boron { diboron trioxide }                                                                                                                               |           |            |          | 0.7 mg/kg         | 3.22         | 1.959 mg/kg    | 0.000196 %   | ✓                    |            |                |
|    | 005-008-00-8                                                                                                                                             | 215-125-8 | 1303-86-2  |          |                   |              |                |              |                      |            |                |
| 4  | cadmium { cadmium oxide }                                                                                                                                |           |            |          | <0.2 mg/kg        | 1.142        | <0.228 mg/kg   | <0.0000228 % |                      |            | <LOD           |
|    | 048-002-00-0                                                                                                                                             | 215-146-2 | 1306-19-0  |          |                   |              |                |              |                      |            |                |
| 5  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |           |            |          | 10.8 mg/kg        | 1.462        | 13.717 mg/kg   | 0.00137 %    | ✓                    |            |                |
|    |                                                                                                                                                          | 215-160-9 | 1308-38-9  |          |                   |              |                |              |                      |            |                |
| 6  | chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8 mg/kg        | 2.27         | <1.816 mg/kg   | <0.000182 %  |                      |            | <LOD           |
|    | 024-017-00-8                                                                                                                                             |           |            |          |                   |              |                |              |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                              |           |            |          | 6.2 mg/kg         | 1.126        | 6.066 mg/kg    | 0.000607 %   | ✓                    |            |                |
|    | 029-002-00-X                                                                                                                                             | 215-270-7 | 1317-39-1  |          |                   |              |                |              |                      |            |                |
| 8  | lead { lead chromate }                                                                                                                                   |           |            | 1        | 20 mg/kg          | 1.56         | 27.11 mg/kg    | 0.00174 %    | ✓                    |            |                |
|    | 082-004-00-2                                                                                                                                             | 231-846-0 | 7758-97-6  |          |                   |              |                |              |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                           |           |            |          | <0.1 mg/kg        | 1.353        | <0.135 mg/kg   | <0.0000135 % |                      |            | <LOD           |
|    | 080-010-00-X                                                                                                                                             | 231-299-8 | 7487-94-7  |          |                   |              |                |              |                      |            |                |
| 10 | nickel { nickel chromate }                                                                                                                               |           |            |          | 4.1 mg/kg         | 2.976        | 10.604 mg/kg   | 0.00106 %    | ✓                    |            |                |
|    | 028-035-00-7                                                                                                                                             | 238-766-5 | 14721-18-7 |          |                   |              |                |              |                      |            |                |
| 11 | selenium { nickel selenate }                                                                                                                             |           |            |          | <1 mg/kg          | 2.554        | <2.554 mg/kg   | <0.000255 %  |                      |            | <LOD           |
|    | 028-031-00-5                                                                                                                                             | 239-125-2 | 15060-62-5 |          |                   |              |                |              |                      |            |                |
| 12 | zinc { zinc chromate }                                                                                                                                   |           |            |          | 14.9 mg/kg        | 2.774        | 35.92 mg/kg    | 0.00359 %    | ✓                    |            |                |
|    | 024-007-00-3                                                                                                                                             | 236-878-9 | 13530-65-9 |          |                   |              |                |              |                      |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                                                                          |           |            |          | 1.4 mg/kg         |              | 1.217 mg/kg    | 0.000122 %   | ✓                    |            |                |
|    |                                                                                                                                                          |           | TPH        |          |                   |              |                |              |                      |            |                |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                 |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
|    | 603-181-00-X                                                                                                                                             | 216-653-1 | 1634-04-4  |          |                   |              |                |              |                      |            |                |
| 15 | benzene                                                                                                                                                  |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
|    | 601-020-00-8                                                                                                                                             | 200-753-7 | 71-43-2    |          |                   |              |                |              |                      |            |                |
| 16 | toluene                                                                                                                                                  |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
|    | 601-021-00-3                                                                                                                                             | 203-625-9 | 108-88-3   |          |                   |              |                |              |                      |            |                |

| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20     | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 6.2 pH            |              | 6.2 pH         | 6.2 pH      |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 15.2 mg/kg        | 1.785        | 23.58 mg/kg    | 0.00236 %   | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |             | 0.0143 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |



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### Supplementary Hazardous Property Information

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**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No free phase liquid, to lower concentration to be flammable

Hazard Statements hit:

---

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

---

TPH (C6 to C40) petroleum group: (conc.: 0.00012%)

Classification of sample: WS05-0.50--22/11/2023

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                              |                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------|
| Sample name:                 | LoW Code:                                                                                 |
| <b>WS05-0.50--22/11/2023</b> | Chapter:                                                                                  |
| Moisture content:            | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| <b>11%</b>                   | Entry:                                                                                    |
| (wet weight correction)      | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |

**Hazard properties**

None identified

**Determinands**

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                              |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                      | EC Number | CAS Number |          |                   |              |                |              |                      |            |                |
| 1  | antimony { antimony trioxide }                                                                                                                           |           |            |          | <0.5 mg/kg        | 1.197        | <0.599 mg/kg   | <0.0000599 % |                      |            | <LOD           |
|    | 051-005-00-X                                                                                                                                             | 215-175-0 | 1309-64-4  |          |                   |              |                |              |                      |            |                |
| 2  | arsenic { arsenic trioxide }                                                                                                                             |           |            |          | 5.1 mg/kg         | 1.32         | 5.993 mg/kg    | 0.000599 %   | ✓                    |            |                |
|    | 033-003-00-0                                                                                                                                             | 215-481-4 | 1327-53-3  |          |                   |              |                |              |                      |            |                |
| 3  | beryllium { beryllium oxide }                                                                                                                            |           |            |          | <0.5 mg/kg        | 2.775        | <1.388 mg/kg   | <0.000139 %  |                      |            | <LOD           |
|    | 004-003-00-8                                                                                                                                             | 215-133-1 | 1304-56-9  |          |                   |              |                |              |                      |            |                |
| 4  | boron { diboron trioxide }                                                                                                                               |           |            |          | 0.5 mg/kg         | 3.22         | 1.433 mg/kg    | 0.000143 %   | ✓                    |            |                |
|    | 005-008-00-8                                                                                                                                             | 215-125-8 | 1303-86-2  |          |                   |              |                |              |                      |            |                |
| 5  | cadmium { cadmium oxide }                                                                                                                                |           |            |          | <0.2 mg/kg        | 1.142        | <0.228 mg/kg   | <0.0000228 % |                      |            | <LOD           |
|    | 048-002-00-0                                                                                                                                             | 215-146-2 | 1306-19-0  |          |                   |              |                |              |                      |            |                |
| 6  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |           |            |          | 16.1 mg/kg        | 1.462        | 20.943 mg/kg   | 0.00209 %    | ✓                    |            |                |
|    |                                                                                                                                                          | 215-160-9 | 1308-38-9  |          |                   |              |                |              |                      |            |                |
| 7  | chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8 mg/kg        | 2.27         | <1.816 mg/kg   | <0.000182 %  |                      |            | <LOD           |
|    | 024-017-00-8                                                                                                                                             |           |            |          |                   |              |                |              |                      |            |                |
| 8  | copper { dicopper oxide; copper (I) oxide }                                                                                                              |           |            |          | 6.1 mg/kg         | 1.126        | 6.112 mg/kg    | 0.000611 %   | ✓                    |            |                |
|    | 029-002-00-X                                                                                                                                             | 215-270-7 | 1317-39-1  |          |                   |              |                |              |                      |            |                |
| 9  | lead { lead chromate }                                                                                                                                   |           |            | 1        | 11.1 mg/kg        | 1.56         | 15.409 mg/kg   | 0.000988 %   | ✓                    |            |                |
|    | 082-004-00-2                                                                                                                                             | 231-846-0 | 7758-97-6  |          |                   |              |                |              |                      |            |                |
| 10 | mercury { mercury dichloride }                                                                                                                           |           |            |          | <0.1 mg/kg        | 1.353        | <0.135 mg/kg   | <0.0000135 % |                      |            | <LOD           |
|    | 080-010-00-X                                                                                                                                             | 231-299-8 | 7487-94-7  |          |                   |              |                |              |                      |            |                |
| 11 | molybdenum { molybdenum(VI) oxide }                                                                                                                      |           |            |          | <1 mg/kg          | 1.5          | <1.5 mg/kg     | <0.00015 %   |                      |            | <LOD           |
|    | 042-001-00-9                                                                                                                                             | 215-204-7 | 1313-27-5  |          |                   |              |                |              |                      |            |                |
| 12 | nickel { nickel chromate }                                                                                                                               |           |            |          | 5.7 mg/kg         | 2.976        | 15.099 mg/kg   | 0.00151 %    | ✓                    |            |                |
|    | 028-035-00-7                                                                                                                                             | 238-766-5 | 14721-18-7 |          |                   |              |                |              |                      |            |                |
| 13 | selenium { nickel selenate }                                                                                                                             |           |            |          | <1 mg/kg          | 2.554        | <2.554 mg/kg   | <0.000255 %  |                      |            | <LOD           |
|    | 028-031-00-5                                                                                                                                             | 239-125-2 | 15060-62-5 |          |                   |              |                |              |                      |            |                |
| 14 | zinc { zinc chromate }                                                                                                                                   |           |            |          | 15.4 mg/kg        | 2.774        | 38.022 mg/kg   | 0.0038 %     | ✓                    |            |                |
|    | 024-007-00-3                                                                                                                                             | 236-878-9 | 13530-65-9 |          |                   |              |                |              |                      |            |                |
| 15 | TPH (C6 to C40) petroleum group                                                                                                                          |           | TPH        |          | <1 mg/kg          |              | <1 mg/kg       | <0.0001 %    |                      |            | <LOD           |
|    |                                                                                                                                                          |           |            |          |                   |              |                |              |                      |            |                |
| 16 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,                                                       |           |            |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 %  |                      |            | <LOD           |

| #      | Determinand                                                                                                                      |                                                                                                                     |                                                                                                               | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                              | EC Number                                                                                                           | CAS Number                                                                                                    |          |                   |              |                |                      |            |                |
|        | ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }                                              |                                                                                                                     |                                                                                                               |          |                   |              |                |                      |            |                |
|        | 006-007-00-5                                                                                                                     |                                                                                                                     |                                                                                                               |          |                   |              |                |                      |            |                |
| 17     | pH                                                                                                                               |                                                                                                                     | PH                                                                                                            |          | 5.9 pH            |              | 5.9 pH         | 5.9 pH               |            |                |
| 18     | naphthalene                                                                                                                      |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        | 601-052-00-2                                                                                                                     | 202-049-5                                                                                                           | 91-20-3                                                                                                       |          |                   |              |                |                      |            |                |
| 19     | acenaphthylene                                                                                                                   |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 205-917-1                                                                                                           | 208-96-8                                                                                                      |          |                   |              |                |                      |            |                |
| 20     | acenaphthene                                                                                                                     |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 201-469-6                                                                                                           | 83-32-9                                                                                                       |          |                   |              |                |                      |            |                |
| 21     | fluorene                                                                                                                         |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 201-695-5                                                                                                           | 86-73-7                                                                                                       |          |                   |              |                |                      |            |                |
| 22     | phenanthrene                                                                                                                     |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 201-581-5                                                                                                           | 85-01-8                                                                                                       |          |                   |              |                |                      |            |                |
| 23     | anthracene                                                                                                                       |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 204-371-1                                                                                                           | 120-12-7                                                                                                      |          |                   |              |                |                      |            |                |
| 24     | fluoranthene                                                                                                                     |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 205-912-4                                                                                                           | 206-44-0                                                                                                      |          |                   |              |                |                      |            |                |
| 25     | pyrene                                                                                                                           |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 204-927-3                                                                                                           | 129-00-0                                                                                                      |          |                   |              |                |                      |            |                |
| 26     | benzo[a]anthracene                                                                                                               |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        | 601-033-00-9                                                                                                                     | 200-280-6                                                                                                           | 56-55-3                                                                                                       |          |                   |              |                |                      |            |                |
| 27     | chrysene                                                                                                                         |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        | 601-048-00-0                                                                                                                     | 205-923-4                                                                                                           | 218-01-9                                                                                                      |          |                   |              |                |                      |            |                |
| 28     | benzo[b]fluoranthene                                                                                                             |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        | 601-034-00-4                                                                                                                     | 205-911-9                                                                                                           | 205-99-2                                                                                                      |          |                   |              |                |                      |            |                |
| 29     | benzo[k]fluoranthene                                                                                                             |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        | 601-036-00-5                                                                                                                     | 205-916-6                                                                                                           | 207-08-9                                                                                                      |          |                   |              |                |                      |            |                |
| 30     | benzo[a]pyrene; benzo[def]chrysene                                                                                               |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        | 601-032-00-3                                                                                                                     | 200-028-5                                                                                                           | 50-32-8                                                                                                       |          |                   |              |                |                      |            |                |
| 31     | indeno[123-cd]pyrene                                                                                                             |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 205-893-2                                                                                                           | 193-39-5                                                                                                      |          |                   |              |                |                      |            |                |
| 32     | dibenz[a,h]anthracene                                                                                                            |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        | 601-041-00-2                                                                                                                     | 200-181-8                                                                                                           | 53-70-3                                                                                                       |          |                   |              |                |                      |            |                |
| 33     | benzo[ghi]perylene                                                                                                               |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %           |            | <LOD           |
|        |                                                                                                                                  | 205-883-8                                                                                                           | 191-24-2                                                                                                      |          |                   |              |                |                      |            |                |
| 34     | polychlorobiphenyls; PCB                                                                                                         |                                                                                                                     |                                                                                                               |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 %          |            | <LOD           |
|        | 602-039-00-4                                                                                                                     | 215-648-1                                                                                                           | 1336-36-3                                                                                                     |          |                   |              |                |                      |            |                |
| 35     | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                           |                                                                                                                     |                                                                                                               |          | 21.6 mg/kg        | 1.785        | 34.318 mg/kg   | 0.00343 %            | ✓          |                |
|        | 023-001-00-8                                                                                                                     | 215-239-8                                                                                                           | 1314-62-1                                                                                                     |          |                   |              |                |                      |            |                |
| 36     | barium { barium chromate }                                                                                                       |                                                                                                                     |                                                                                                               |          | 18.5 mg/kg        | 1.845        | 30.372 mg/kg   | 0.00304 %            | ✓          |                |
|        |                                                                                                                                  | 233-660-5                                                                                                           | 10294-40-3                                                                                                    |          |                   |              |                |                      |            |                |
| 37     | 1-naphtol                                                                                                                        |                                                                                                                     |                                                                                                               |          | <1 mg/kg          |              | <1 mg/kg       | <0.0001 %            |            | <LOD           |
|        | 604-029-00-5                                                                                                                     | 201-969-4                                                                                                           | 90-15-3                                                                                                       |          |                   |              |                |                      |            |                |
| 38     | m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]                                                                         |                                                                                                                     |                                                                                                               |          | <2 mg/kg          |              | <2 mg/kg       | <0.0002 %            |            | <LOD           |
|        | 604-004-00-9                                                                                                                     | 203-577-9 [1]<br>202-423-8 [2]<br>203-398-6 [3]<br>215-293-2 [4]                                                    | 108-39-4 [1]<br>95-48-7 [2]<br>106-44-5 [3]<br>1319-77-3 [4]                                                  |          |                   |              |                |                      |            |                |
| 39     | 3,4-xyleneol; [1] 2,5-xyleneol; [2] 2,4-xyleneol; [3] 2,3-xyleneol; [4] 2,6-xyleneol; [5] xyleneol; [6] 2,4(or 2,5)-xyleneol [7] |                                                                                                                     |                                                                                                               |          | <2 mg/kg          |              | <2 mg/kg       | <0.0002 %            |            | <LOD           |
|        | 604-006-00-X                                                                                                                     | 202-439-5 [1]<br>202-461-5 [2]<br>203-321-6 [3]<br>208-395-3 [4]<br>209-400-1 [5]<br>215-089-3 [6]<br>276-245-4 [7] | 95-65-8 [1]<br>95-87-4 [2]<br>105-67-9 [3]<br>526-75-0 [4]<br>576-26-1 [5]<br>1300-71-6 [6]<br>71975-58-1 [7] |          |                   |              |                |                      |            |                |
| Total: |                                                                                                                                  |                                                                                                                     |                                                                                                               |          |                   |              |                | 0.018 %              |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
| ■           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| ■           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

**Supplementary Hazardous Property Information**

**HP 2: Oxidizing** "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because here isn't enough Metal and Cr(VI) to make the Metal chromate - No hazardous levels in any case.

Hazard Statements hit:

**Ox. Sol. 2; H272** "May intensify fire; oxidiser."

Because of determinand:

barium chromate: (compound conc.: 0.00304%)



### WAC results for sample: WS05-0.50--22/11/2023

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

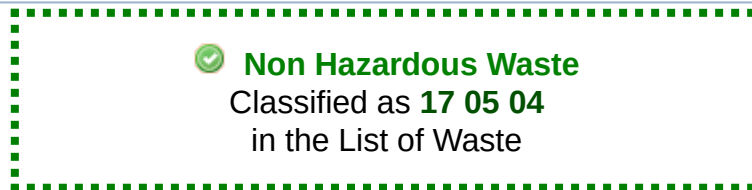
### WAC Determinands

| Solid Waste Analysis |                                                   |        |                   | Landfill Waste Acceptance Criteria Limits |                                                               |                          |
|----------------------|---------------------------------------------------|--------|-------------------|-------------------------------------------|---------------------------------------------------------------|--------------------------|
| #                    | Determinand                                       |        | User entered data | Inert waste landfill                      | Stable non-reactive hazardous waste in non-hazardous landfill | Hazardous waste landfill |
| 1                    | TOC (total organic carbon)                        | %      | 0.42              | 3                                         | 5                                                             | 6                        |
| 2                    | LOI (loss on ignition)                            | %      | 2.34              | -                                         | -                                                             | 10                       |
| 3                    | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg  | <0.01             | 6                                         | -                                                             | -                        |
| 4                    | PCBs (polychlorinated biphenyls, 7 congeners)     | mg/kg  | <0.03             | 1                                         | -                                                             | -                        |
| 5                    | Mineral oil (C10 to C40)                          | mg/kg  | <5                | 500                                       | -                                                             | -                        |
| 6                    | PAHs (polycyclic aromatic hydrocarbons)           | mg/kg  | <2                | 100                                       | -                                                             | -                        |
| 7                    | pH                                                | pH     | 5.9               | -                                         | >6                                                            | -                        |
| 8                    | ANC (acid neutralisation capacity)                | mol/kg | <0.1              | -                                         | -                                                             | -                        |
| Eluate Analysis 10:1 |                                                   |        |                   |                                           |                                                               |                          |
| 9                    | arsenic                                           | mg/kg  | <0.05             | 0.5                                       | 2                                                             | 25                       |
| 10                   | barium                                            | mg/kg  | <0.05             | 20                                        | 100                                                           | 300                      |
| 11                   | cadmium                                           | mg/kg  | <0.01             | 0.04                                      | 1                                                             | 5                        |
| 12                   | chromium                                          | mg/kg  | <0.05             | 0.5                                       | 10                                                            | 70                       |
| 13                   | copper                                            | mg/kg  | <0.05             | 2                                         | 50                                                            | 100                      |
| 14                   | mercury                                           | mg/kg  | <0.01             | 0.01                                      | 0.2                                                           | 2                        |
| 15                   | molybdenum                                        | mg/kg  | <0.05             | 0.5                                       | 10                                                            | 30                       |
| 16                   | nickel                                            | mg/kg  | <0.05             | 0.4                                       | 10                                                            | 40                       |
| 17                   | lead                                              | mg/kg  | <0.05             | 0.5                                       | 10                                                            | 50                       |
| 18                   | antimony                                          | mg/kg  | <0.05             | 0.06                                      | 0.7                                                           | 5                        |
| 19                   | selenium                                          | mg/kg  | <0.05             | 0.1                                       | 0.5                                                           | 7                        |
| 20                   | zinc                                              | mg/kg  | <0.05             | 4                                         | 50                                                            | 200                      |
| 21                   | chloride                                          | mg/kg  | <50               | 800                                       | 15,000                                                        | 25,000                   |
| 22                   | fluoride                                          | mg/kg  | <10               | 10                                        | 150                                                           | 500                      |
| 23                   | sulphate                                          | mg/kg  | <10               | 1,000                                     | 20,000                                                        | 50,000                   |
| 24                   | phenol index                                      | mg/kg  | <0.1              | 1                                         | -                                                             | -                        |
| 25                   | DOC (dissolved organic carbon)                    | mg/kg  | 211               | 500                                       | 800                                                           | 1,000                    |
| 26                   | TDS (total dissolved solids)                      | mg/kg  | <100              | 4,000                                     | 60,000                                                        | 100,000                  |

#### Key

|  |                         |
|--|-------------------------|
|  | User supplied data      |
|  | Not applicable          |
|  | SNRHW WAC criteria fail |

Classification of sample: WS06-0.10--22/11/2023


**Sample details**

|                              |                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------|
| Sample name:                 | LoW Code:                                                                                 |
| <b>WS06-0.10--22/11/2023</b> | Chapter:                                                                                  |
| Moisture content:            | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| <b>20%</b>                   | Entry:                                                                                    |
| (wet weight correction)      | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |

**Hazard properties**

None identified

**Determinands**

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                              |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                      | EC Number | CAS Number |          |                   |              |                |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                             |           |            |          | 4.4 mg/kg         | 1.32         | 4.648 mg/kg    | 0.000465 %           | ✓          |                |
|    | 033-003-00-0                                                                                                                                             | 215-481-4 | 1327-53-3  |          |                   |              |                |                      |            |                |
| 2  | beryllium { beryllium oxide }                                                                                                                            |           |            |          | <0.5 mg/kg        | 2.775        | <1.388 mg/kg   | <0.000139 %          |            | <LOD           |
|    | 004-003-00-8                                                                                                                                             | 215-133-1 | 1304-56-9  |          |                   |              |                |                      |            |                |
| 3  | boron { diboron trioxide }                                                                                                                               |           |            |          | 0.6 mg/kg         | 3.22         | 1.546 mg/kg    | 0.000155 %           | ✓          |                |
|    | 005-008-00-8                                                                                                                                             | 215-125-8 | 1303-86-2  |          |                   |              |                |                      |            |                |
| 4  | cadmium { cadmium oxide }                                                                                                                                |           |            |          | <0.2 mg/kg        | 1.142        | <0.228 mg/kg   | <0.0000228 %         |            | <LOD           |
|    | 048-002-00-0                                                                                                                                             | 215-146-2 | 1306-19-0  |          |                   |              |                |                      |            |                |
| 5  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |           |            |          | 13.5 mg/kg        | 1.462        | 15.785 mg/kg   | 0.00158 %            | ✓          |                |
|    |                                                                                                                                                          | 215-160-9 | 1308-38-9  |          |                   |              |                |                      |            |                |
| 6  | chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8 mg/kg        | 2.27         | <1.816 mg/kg   | <0.000182 %          |            | <LOD           |
|    | 024-017-00-8                                                                                                                                             |           |            |          |                   |              |                |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                              |           |            |          | 13.8 mg/kg        | 1.126        | 12.43 mg/kg    | 0.00124 %            | ✓          |                |
|    | 029-002-00-X                                                                                                                                             | 215-270-7 | 1317-39-1  |          |                   |              |                |                      |            |                |
| 8  | lead { lead chromate }                                                                                                                                   |           |            | 1        | 39.2 mg/kg        | 1.56         | 48.916 mg/kg   | 0.00314 %            | ✓          |                |
|    | 082-004-00-2                                                                                                                                             | 231-846-0 | 7758-97-6  |          |                   |              |                |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                           |           |            |          | 0.1 mg/kg         | 1.353        | 0.108 mg/kg    | 0.0000108 %          | ✓          |                |
|    | 080-010-00-X                                                                                                                                             | 231-299-8 | 7487-94-7  |          |                   |              |                |                      |            |                |
| 10 | nickel { nickel chromate }                                                                                                                               |           |            |          | 3.7 mg/kg         | 2.976        | 8.81 mg/kg     | 0.000881 %           | ✓          |                |
|    | 028-035-00-7                                                                                                                                             | 238-766-5 | 14721-18-7 |          |                   |              |                |                      |            |                |
| 11 | selenium { nickel selenate }                                                                                                                             |           |            |          | <1 mg/kg          | 2.554        | <2.554 mg/kg   | <0.000255 %          |            | <LOD           |
|    | 028-031-00-5                                                                                                                                             | 239-125-2 | 15060-62-5 |          |                   |              |                |                      |            |                |
| 12 | zinc { zinc chromate }                                                                                                                                   |           |            |          | 22.5 mg/kg        | 2.774        | 49.935 mg/kg   | 0.00499 %            | ✓          |                |
|    | 024-007-00-3                                                                                                                                             | 236-878-9 | 13530-65-9 |          |                   |              |                |                      |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                                                                          |           |            |          | <1 mg/kg          |              | <1 mg/kg       | <0.0001 %            |            | <LOD           |
|    |                                                                                                                                                          |           | TPH        |          |                   |              |                |                      |            |                |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                 |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|    | 603-181-00-X                                                                                                                                             | 216-653-1 | 1634-04-4  |          |                   |              |                |                      |            |                |
| 15 | benzene                                                                                                                                                  |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|    | 601-020-00-8                                                                                                                                             | 200-753-7 | 71-43-2    |          |                   |              |                |                      |            |                |
| 16 | toluene                                                                                                                                                  |           |            |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
|    | 601-021-00-3                                                                                                                                             | 203-625-9 | 108-88-3   |          |                   |              |                |                      |            |                |

| #  | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17 | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18 | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20 | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 5.8 pH            |              | 5.8 pH         | 5.8 pH      |                      |            |                |
| 21 | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22 | acenaphthylene<br>205-917-1                                                                                                                                                                            |                                                                  | 208-96-8                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23 | acenaphthene<br>201-469-6                                                                                                                                                                              |                                                                  | 83-32-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24 | fluorene<br>201-695-5                                                                                                                                                                                  |                                                                  | 86-73-7                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25 | phenanthrene<br>201-581-5                                                                                                                                                                              |                                                                  | 85-01-8                                                      |          | 0.03 mg/kg        |              | 0.024 mg/kg    | 0.0000024 % | ✓                    |            |                |
| 26 | anthracene<br>204-371-1                                                                                                                                                                                |                                                                  | 120-12-7                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27 | fluoranthene<br>205-912-4                                                                                                                                                                              |                                                                  | 206-44-0                                                     |          | 0.08 mg/kg        |              | 0.064 mg/kg    | 0.0000064 % | ✓                    |            |                |
| 28 | pyrene<br>204-927-3                                                                                                                                                                                    |                                                                  | 129-00-0                                                     |          | 0.08 mg/kg        |              | 0.064 mg/kg    | 0.0000064 % | ✓                    |            |                |
| 29 | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | 0.03 mg/kg        |              | 0.024 mg/kg    | 0.0000024 % | ✓                    |            |                |
| 30 | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31 | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | 0.03 mg/kg        |              | 0.024 mg/kg    | 0.0000024 % | ✓                    |            |                |
| 32 | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33 | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | 0.04 mg/kg        |              | 0.032 mg/kg    | 0.0000032 % | ✓                    |            |                |
| 34 | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      |                                                                  | 193-39-5                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35 | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36 | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        |                                                                  | 191-24-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37 | DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane<br>602-045-00-7                                                                | 200-024-3                                                        | 50-29-3                                                      |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 38 | chlordan (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoinan<br>602-047-00-8                                                                                                        | 200-349-0                                                        | 57-74-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 39 | hexachlorocyclohexanes, including lindane<br>602-043-00-6                                                                                                                                              | 210-168-9,<br>200-401-2,<br>206-270-8,<br>206-271-3              | 58-89-9,<br>319-84-6,<br>319-85-7,<br>608-73-1               |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 40 | dieldrin (ISO)<br>602-049-00-9                                                                                                                                                                         | 200-484-5                                                        | 60-57-1                                                      |          | 0.1 mg/kg         |              | 0.08 mg/kg     | 0.000008 %  | ✓                    |            |                |

| #      | Determinand                                                                                                                                                                    |              |            | CLP Note  | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|-----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                            | EC Number    | CAS Number |           |                   |              |                |             |                      |            |                |
| 41     | endrin (ISO);<br>1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene                                                                   | 602-051-00-X | 200-775-7  | 72-20-8   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 42     | heptachlor (ISO);<br>1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene                                                                                          | 602-046-00-2 | 200-962-3  | 76-44-8   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 43     | aldrin (ISO)                                                                                                                                                                   | 602-048-00-3 | 206-215-8  | 309-00-2  | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 44     | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                                                                         | 023-001-00-8 | 215-239-8  | 1314-62-1 | 20.6 mg/kg        | 1.785        | 29.42 mg/kg    | 0.00294 %   | ✓                    |            |                |
| 45     | sulfur { sulfur }                                                                                                                                                              | 016-094-00-1 | 231-722-6  | 7704-34-9 | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| 46     | heptachlor epoxide;<br>2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane                                                                              | 602-063-00-5 | 213-831-0  | 1024-57-3 | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 47     | p,p'-DDE                                                                                                                                                                       |              | 200-784-6  | 72-55-9   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 48     | p,p'-DDD                                                                                                                                                                       |              | 200-783-0  | 72-54-8   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 49     | p,p'-methoxychlor                                                                                                                                                              |              | 200-779-9  | 72-43-5   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 50     | endosulfan (ISO);<br>1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite;<br>1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite | 602-052-00-5 | 204-079-4  | 115-29-7  | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| Total: |                                                                                                                                                                                |              |            |           |                   |              |                |             | 0.0184 %             |            |                |

**Key**

|                                                                                     |                                                                                                                                 |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | User supplied data                                                                                                              |
|                                                                                     | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
| •                                                                                   | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|  | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD                                                                                | Below limit of detection                                                                                                        |
| CLP: Note 1                                                                         | Only the metal concentration has been used for classification                                                                   |



**Classification of sample: WS07-0.80--22/11/2023**

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                                         |                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|
| Sample name:                            | LoW Code:                                                                                          |
| <b>WS07-0.80--22/11/2023</b>            | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content:                       | Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                           |
| <b>11.9%</b><br>(wet weight correction) |                                                                                                    |

**Hazard properties**

None identified

**Determinands**

Moisture content: 11.9% Wet Weight Moisture Correction applied (MC)

| #  |                                                                                     | Determinand                                                                                                                                             |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    |                                                                                     | EU CLP index number                                                                                                                                     | EC Number | CAS Number |          |                   |       |              |                |       |                      |            |                |
| 1  |  | arsenic { arsenic trioxide }                                                                                                                            |           |            |          | 9.7               | mg/kg | 1.32         | 11.283         | mg/kg | 0.00113 %            | ✓          |                |
|    |                                                                                     | 033-003-00-0                                                                                                                                            | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |            |                |
| 2  |  | beryllium { beryllium oxide }                                                                                                                           |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |            | <LOD           |
|    |                                                                                     | 004-003-00-8                                                                                                                                            | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |            |                |
| 3  |  | boron { diboron trioxide }                                                                                                                              |           |            |          | <0.5              | mg/kg | 3.22         | <1.61          | mg/kg | <0.000161 %          |            | <LOD           |
|    |                                                                                     | 005-008-00-8                                                                                                                                            | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |            |                |
| 4  |  | cadmium { cadmium oxide }                                                                                                                               |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |            | <LOD           |
|    |                                                                                     | 048-002-00-0                                                                                                                                            | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |            |                |
| 5  |  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                |           |            |          | 51.2              | mg/kg | 1.462        | 65.927         | mg/kg | 0.00659 %            | ✓          |                |
|    |                                                                                     |                                                                                                                                                         | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |            |                |
| 6  |  | chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |            | <LOD           |
|    |                                                                                     | 024-017-00-8                                                                                                                                            |           |            |          |                   |       |              |                |       |                      |            |                |
| 7  |  | copper { dicopper oxide; copper (I) oxide }                                                                                                             |           |            |          | 14                | mg/kg | 1.126        | 13.887         | mg/kg | 0.00139 %            | ✓          |                |
|    |                                                                                     | 029-002-00-X                                                                                                                                            | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |            |                |
| 8  |  | lead { lead chromate }                                                                                                                                  |           |            | 1        | 14.7              | mg/kg | 1.56         | 20.201         | mg/kg | 0.0013 %             | ✓          |                |
|    |                                                                                     | 082-004-00-2                                                                                                                                            | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |            |                |
| 9  |  | mercury { mercury dichloride }                                                                                                                          |           |            |          | 0.1               | mg/kg | 1.353        | 0.119          | mg/kg | 0.0000119 %          | ✓          |                |
|    |                                                                                     | 080-010-00-X                                                                                                                                            | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |            |                |
| 10 |  | nickel { nickel chromate }                                                                                                                              |           |            |          | 9.1               | mg/kg | 2.976        | 23.861         | mg/kg | 0.00239 %            | ✓          |                |
|    |                                                                                     | 028-035-00-7                                                                                                                                            | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |            |                |
| 11 |  | selenium { nickel selenate }                                                                                                                            |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |            | <LOD           |
|    |                                                                                     | 028-031-00-5                                                                                                                                            | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |            |                |
| 12 |  | zinc { zinc chromate }                                                                                                                                  |           |            |          | 23.6              | mg/kg | 2.774        | 57.679         | mg/kg | 0.00577 %            | ✓          |                |
|    |                                                                                     | 024-007-00-3                                                                                                                                            | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |            |                |
| 13 |  | TPH (C6 to C40) petroleum group                                                                                                                         |           |            |          | 1.3               | mg/kg |              | 1.145          | mg/kg | 0.000115 %           | ✓          |                |
|    |                                                                                     |                                                                                                                                                         |           | TPH        |          |                   |       |              |                |       |                      |            |                |
| 14 |                                                                                     | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 603-181-00-X                                                                                                                                            | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |            |                |
| 15 |                                                                                     | benzene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 601-020-00-8                                                                                                                                            | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |            |                |
| 16 |                                                                                     | toluene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    |                                                                                     | 601-021-00-3                                                                                                                                            | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20     | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 5.4 pH            |              | 5.4 pH         | 5.4 pH      |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 92.9 mg/kg        | 1.785        | 146.108 mg/kg  | 0.0146 %    | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |             | 0.0363 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

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### Supplementary Hazardous Property Information

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**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No free phase liquid, to lower concentration to be flammable

Hazard Statements hit:

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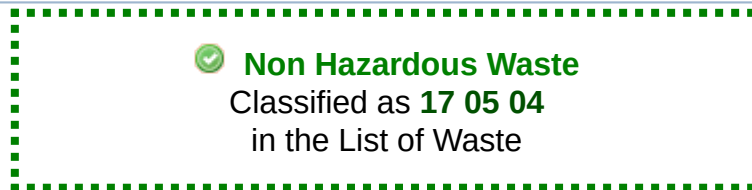
**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

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TPH (C6 to C40) petroleum group: (conc.: 0.00011%)

Classification of sample: WS08-0.10--22/11/2023


**Sample details**

|                              |                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------|
| Sample name:                 | LoW Code:                                                                                 |
| <b>WS08-0.10--22/11/2023</b> | Chapter:                                                                                  |
| Moisture content:            | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| <b>12.7%</b>                 | Entry:                                                                                    |
| (wet weight correction)      | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |

**Hazard properties**

None identified

**Determinands**

Moisture content: 12.7% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                              |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                      | EC Number | CAS Number |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                             |           |            |          | 2.3               | mg/kg | 1.32         | 2.651          | mg/kg | 0.000265 %           | ✓          |                |
|    | 033-003-00-0                                                                                                                                             | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |            |                |
| 2  | beryllium { beryllium oxide }                                                                                                                            |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |            | <LOD           |
|    | 004-003-00-8                                                                                                                                             | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |            |                |
| 3  | boron { diboron trioxide }                                                                                                                               |           |            |          | 0.8               | mg/kg | 3.22         | 2.249          | mg/kg | 0.000225 %           | ✓          |                |
|    | 005-008-00-8                                                                                                                                             | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |            |                |
| 4  | cadmium { cadmium oxide }                                                                                                                                |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |            | <LOD           |
|    | 048-002-00-0                                                                                                                                             | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |            |                |
| 5  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |           |            |          | 9.1               | mg/kg | 1.462        | 11.611         | mg/kg | 0.00116 %            | ✓          |                |
|    |                                                                                                                                                          | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |            | <LOD           |
|    | 024-017-00-8                                                                                                                                             |           |            |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                              |           |            |          | 5.8               | mg/kg | 1.126        | 5.701          | mg/kg | 0.00057 %            | ✓          |                |
|    | 029-002-00-X                                                                                                                                             | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead chromate }                                                                                                                                   |           |            | 1        | 10.6              | mg/kg | 1.56         | 14.434         | mg/kg | 0.000925 %           | ✓          |                |
|    | 082-004-00-2                                                                                                                                             | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                           |           |            |          | <0.1              | mg/kg | 1.353        | <0.135         | mg/kg | <0.0000135 %         |            | <LOD           |
|    | 080-010-00-X                                                                                                                                             | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |            |                |
| 10 | nickel { nickel chromate }                                                                                                                               |           |            |          | 2.5               | mg/kg | 2.976        | 6.496          | mg/kg | 0.00065 %            | ✓          |                |
|    | 028-035-00-7                                                                                                                                             | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |            |                |
| 11 | selenium { nickel selenate }                                                                                                                             |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |            | <LOD           |
|    | 028-031-00-5                                                                                                                                             | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |            |                |
| 12 | zinc { zinc chromate }                                                                                                                                   |           |            |          | 16.7              | mg/kg | 2.774        | 40.445         | mg/kg | 0.00404 %            | ✓          |                |
|    | 024-007-00-3                                                                                                                                             | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                                                                          |           |            |          | <1                | mg/kg |              | <1             | mg/kg | <0.0001 %            |            | <LOD           |
|    |                                                                                                                                                          |           | TPH        |          |                   |       |              |                |       |                      |            |                |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 603-181-00-X                                                                                                                                             | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |            |                |
| 15 | benzene                                                                                                                                                  |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 601-020-00-8                                                                                                                                             | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |            |                |
| 16 | toluene                                                                                                                                                  |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 601-021-00-3                                                                                                                                             | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |            |                |



| #  | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |              |                      |            |                |
| 17 | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
| 18 | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
| 19 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 %  |                      |            | <LOD           |
| 20 | pH<br>PH                                                                                                                                                                                               |                                                                  |                                                              |          | 5.3 pH            |              | 5.3 pH         | 5.3 pH       |                      |            |                |
| 21 | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 22 | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 23 | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 24 | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 25 | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 26 | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 27 | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | 0.03 mg/kg        |              | 0.0262 mg/kg   | 0.00000262 % | ✓                    |            |                |
| 28 | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | 0.02 mg/kg        |              | 0.0175 mg/kg   | 0.00000175 % | ✓                    |            |                |
| 29 | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 30 | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 31 | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 32 | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 %  |                      |            | <LOD           |
| 33 | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 34 | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 35 | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 36 | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 37 | DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane<br>602-045-00-7                                                                | 200-024-3                                                        | 50-29-3                                                      |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
| 38 | chlordan (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoinan<br>602-047-00-8                                                                                                        | 200-349-0                                                        | 57-74-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 39 | hexachlorocyclohexanes, including lindane<br>602-043-00-6                                                                                                                                              | 210-168-9,<br>200-401-2,<br>206-270-8,<br>206-271-3              | 58-89-9,<br>319-84-6,<br>319-85-7,<br>608-73-1               |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 %  |                      |            | <LOD           |
| 40 | dieldrin (ISO)<br>602-049-00-9                                                                                                                                                                         | 200-484-5                                                        | 60-57-1                                                      |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |

| #      | Determinand                                                                                                                                                                    |              |            | CLP Note  | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|-----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                            | EC Number    | CAS Number |           |                   |              |                |             |                      |            |                |
| 41     | endrin (ISO);<br>1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene                                                                   | 602-051-00-X | 200-775-7  | 72-20-8   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 42     | heptachlor (ISO);<br>1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene                                                                                          | 602-046-00-2 | 200-962-3  | 76-44-8   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 43     | aldrin (ISO)                                                                                                                                                                   | 602-048-00-3 | 206-215-8  | 309-00-2  | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 44     | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                                                                         | 023-001-00-8 | 215-239-8  | 1314-62-1 | 10.6 mg/kg        | 1.785        | 16.52 mg/kg    | 0.00165 %   | ✓                    |            |                |
| 45     | sulfur { sulfur }                                                                                                                                                              | 016-094-00-1 | 231-722-6  | 7704-34-9 | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| 46     | heptachlor epoxide;<br>2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane                                                                              | 602-063-00-5 | 213-831-0  | 1024-57-3 | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 47     | p,p'-DDE                                                                                                                                                                       | 200-784-6    | 72-55-9    |           | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 48     | p,p'-DDD                                                                                                                                                                       | 200-783-0    | 72-54-8    |           | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 49     | p,p'-methoxychlor                                                                                                                                                              | 200-779-9    | 72-43-5    |           | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 50     | endosulfan (ISO);<br>1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite;<br>1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite | 602-052-00-5 | 204-079-4  | 115-29-7  | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| Total: |                                                                                                                                                                                |              |            |           |                   |              |                |             | 0.0124 %             |            |                |

**Key**

|                                                                                     |                                                                                                                                 |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | User supplied data                                                                                                              |
|                                                                                     | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
| •                                                                                   | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|  | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD                                                                                | Below limit of detection                                                                                                        |
| CLP: Note 1                                                                         | Only the metal concentration has been used for classification                                                                   |

**Classification of sample: WS09-0.10--22/11/2023**

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                                         |                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|
| Sample name:                            | LoW Code:                                                                                          |
| <b>WS09-0.10--22/11/2023</b>            | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content:                       | Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                           |
| <b>11.8%</b><br>(wet weight correction) |                                                                                                    |

**Hazard properties**

None identified

**Determinands**

Moisture content: 11.8% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                                                                                                                 |              |            | CLP Note   | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|------------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                                                                         | EC Number    | CAS Number |            |                   |              |                |              |                      |            |                |
| 1  |  antimony { antimony trioxide }                                                                                                                          | 051-005-00-X | 215-175-0  | 1309-64-4  | <0.5 mg/kg        | 1.197        | <0.599 mg/kg   | <0.0000599 % |                      |            | <LOD           |
| 2  |  arsenic { arsenic trioxide }                                                                                                                            | 033-003-00-0 | 215-481-4  | 1327-53-3  | 4.3 mg/kg         | 1.32         | 5.007 mg/kg    | 0.000501 %   | ✓                    |            |                |
| 3  |  beryllium { beryllium oxide }                                                                                                                           | 004-003-00-8 | 215-133-1  | 1304-56-9  | <0.5 mg/kg        | 2.775        | <1.388 mg/kg   | <0.000139 %  |                      |            | <LOD           |
| 4  |  boron { diboron trioxide }                                                                                                                              | 005-008-00-8 | 215-125-8  | 1303-86-2  | 1.1 mg/kg         | 3.22         | 3.124 mg/kg    | 0.000312 %   | ✓                    |            |                |
| 5  |  cadmium { cadmium oxide }                                                                                                                               | 048-002-00-0 | 215-146-2  | 1306-19-0  | <0.2 mg/kg        | 1.142        | <0.228 mg/kg   | <0.0000228 % |                      |            | <LOD           |
| 6  |  chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                | 215-160-9    | 1308-38-9  |            | 13.4 mg/kg        | 1.462        | 17.274 mg/kg   | 0.00173 %    | ✓                    |            |                |
| 7  |  chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8 |            |            | <0.8 mg/kg        | 2.27         | <1.816 mg/kg   | <0.000182 %  |                      |            | <LOD           |
| 8  |  copper { dicopper oxide; copper (I) oxide }                                                                                                             | 029-002-00-X | 215-270-7  | 1317-39-1  | 7.6 mg/kg         | 1.126        | 7.547 mg/kg    | 0.000755 %   | ✓                    |            |                |
| 9  |  lead { lead chromate }                                                                                                                                  | 082-004-00-2 | 231-846-0  | 7758-97-6  | 20.3 mg/kg        | 1.56         | 27.928 mg/kg   | 0.00179 %    | ✓                    |            |                |
| 10 |  mercury { mercury dichloride }                                                                                                                          | 080-010-00-X | 231-299-8  | 7487-94-7  | <0.1 mg/kg        | 1.353        | <0.135 mg/kg   | <0.0000135 % |                      |            | <LOD           |
| 11 |  molybdenum { molybdenum(VI) oxide }                                                                                                                     | 042-001-00-9 | 215-204-7  | 1313-27-5  | <1 mg/kg          | 1.5          | <1.5 mg/kg     | <0.00015 %   |                      |            | <LOD           |
| 12 |  nickel { nickel chromate }                                                                                                                              | 028-035-00-7 | 238-766-5  | 14721-18-7 | 3.5 mg/kg         | 2.976        | 9.188 mg/kg    | 0.000919 %   | ✓                    |            |                |
| 13 |  selenium { nickel selenate }                                                                                                                            | 028-031-00-5 | 239-125-2  | 15060-62-5 | <1 mg/kg          | 2.554        | <2.554 mg/kg   | <0.000255 %  |                      |            | <LOD           |
| 14 |  zinc { zinc chromate }                                                                                                                                  | 024-007-00-3 | 236-878-9  | 13530-65-9 | 16.5 mg/kg        | 2.774        | 40.372 mg/kg   | 0.00404 %    | ✓                    |            |                |
| 15 |  TPH (C6 to C40) petroleum group                                                                                                                         |              | TPH        |            | <1 mg/kg          |              | <1 mg/kg       | <0.0001 %    |                      |            | <LOD           |
| 16 |  cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,                                                      |              |            |            | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 %  |                      |            | <LOD           |

| #      | Determinand                                                                                                        |                                                                                                                     |                                                                                                               | CLP Note | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                | EC Number                                                                                                           | CAS Number                                                                                                    |          |                   |              |                |              |                      |            |                |
|        | ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }                                |                                                                                                                     |                                                                                                               |          |                   |              |                |              |                      |            |                |
|        | 006-007-00-5                                                                                                       |                                                                                                                     |                                                                                                               |          |                   |              |                |              |                      |            |                |
| 17     | pH                                                                                                                 |                                                                                                                     | PH                                                                                                            |          | 5.6 pH            |              | 5.6 pH         | 5.6 pH       |                      |            |                |
| 18     | naphthalene                                                                                                        |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        | 601-052-00-2                                                                                                       | 202-049-5                                                                                                           | 91-20-3                                                                                                       |          |                   |              |                |              |                      |            |                |
| 19     | acenaphthylene                                                                                                     |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        |                                                                                                                    | 205-917-1                                                                                                           | 208-96-8                                                                                                      |          |                   |              |                |              |                      |            |                |
| 20     | acenaphthene                                                                                                       |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        |                                                                                                                    | 201-469-6                                                                                                           | 83-32-9                                                                                                       |          |                   |              |                |              |                      |            |                |
| 21     | fluorene                                                                                                           |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        |                                                                                                                    | 201-695-5                                                                                                           | 86-73-7                                                                                                       |          |                   |              |                |              |                      |            |                |
| 22     | phenanthrene                                                                                                       |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        |                                                                                                                    | 201-581-5                                                                                                           | 85-01-8                                                                                                       |          |                   |              |                |              |                      |            |                |
| 23     | anthracene                                                                                                         |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        |                                                                                                                    | 204-371-1                                                                                                           | 120-12-7                                                                                                      |          |                   |              |                |              |                      |            |                |
| 24     | fluoranthene                                                                                                       |                                                                                                                     |                                                                                                               |          | 0.1 mg/kg         |              | 0.0882 mg/kg   | 0.00000882 % | ✓                    |            |                |
|        |                                                                                                                    | 205-912-4                                                                                                           | 206-44-0                                                                                                      |          |                   |              |                |              |                      |            |                |
| 25     | pyrene                                                                                                             |                                                                                                                     |                                                                                                               |          | 0.1 mg/kg         |              | 0.0882 mg/kg   | 0.00000882 % | ✓                    |            |                |
|        |                                                                                                                    | 204-927-3                                                                                                           | 129-00-0                                                                                                      |          |                   |              |                |              |                      |            |                |
| 26     | benzo[a]anthracene                                                                                                 |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        | 601-033-00-9                                                                                                       | 200-280-6                                                                                                           | 56-55-3                                                                                                       |          |                   |              |                |              |                      |            |                |
| 27     | chrysene                                                                                                           |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        | 601-048-00-0                                                                                                       | 205-923-4                                                                                                           | 218-01-9                                                                                                      |          |                   |              |                |              |                      |            |                |
| 28     | benzo[b]fluoranthene                                                                                               |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        | 601-034-00-4                                                                                                       | 205-911-9                                                                                                           | 205-99-2                                                                                                      |          |                   |              |                |              |                      |            |                |
| 29     | benzo[k]fluoranthene                                                                                               |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        | 601-036-00-5                                                                                                       | 205-916-6                                                                                                           | 207-08-9                                                                                                      |          |                   |              |                |              |                      |            |                |
| 30     | benzo[a]pyrene; benzo[def]chrysene                                                                                 |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        | 601-032-00-3                                                                                                       | 200-028-5                                                                                                           | 50-32-8                                                                                                       |          |                   |              |                |              |                      |            |                |
| 31     | indeno[123-cd]pyrene                                                                                               |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        |                                                                                                                    | 205-893-2                                                                                                           | 193-39-5                                                                                                      |          |                   |              |                |              |                      |            |                |
| 32     | dibenz[a,h]anthracene                                                                                              |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        | 601-041-00-2                                                                                                       | 200-181-8                                                                                                           | 53-70-3                                                                                                       |          |                   |              |                |              |                      |            |                |
| 33     | benzo[ghi]perylene                                                                                                 |                                                                                                                     |                                                                                                               |          | <0.1 mg/kg        |              | <0.1 mg/kg     | <0.00001 %   |                      |            | <LOD           |
|        |                                                                                                                    | 205-883-8                                                                                                           | 191-24-2                                                                                                      |          |                   |              |                |              |                      |            |                |
| 34     | polychlorobiphenyls; PCB                                                                                           |                                                                                                                     |                                                                                                               |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 %  |                      |            | <LOD           |
|        | 602-039-00-4                                                                                                       | 215-648-1                                                                                                           | 1336-36-3                                                                                                     |          |                   |              |                |              |                      |            |                |
| 35     | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                             |                                                                                                                     |                                                                                                               |          | 18.5 mg/kg        | 1.785        | 29.129 mg/kg   | 0.00291 %    | ✓                    |            |                |
|        | 023-001-00-8                                                                                                       | 215-239-8                                                                                                           | 1314-62-1                                                                                                     |          |                   |              |                |              |                      |            |                |
| 36     | barium { barium chromate }                                                                                         |                                                                                                                     |                                                                                                               |          | 14.7 mg/kg        | 1.845        | 23.917 mg/kg   | 0.00239 %    | ✓                    |            |                |
|        |                                                                                                                    | 233-660-5                                                                                                           | 10294-40-3                                                                                                    |          |                   |              |                |              |                      |            |                |
| 37     | 1-naphtol                                                                                                          |                                                                                                                     |                                                                                                               |          | <1 mg/kg          |              | <1 mg/kg       | <0.0001 %    |                      |            | <LOD           |
|        | 604-029-00-5                                                                                                       | 201-969-4                                                                                                           | 90-15-3                                                                                                       |          |                   |              |                |              |                      |            |                |
| 38     | m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]                                                           |                                                                                                                     |                                                                                                               |          | <2 mg/kg          |              | <2 mg/kg       | <0.0002 %    |                      |            | <LOD           |
|        | 604-004-00-9                                                                                                       | 203-577-9 [1]<br>202-423-8 [2]<br>203-398-6 [3]<br>215-293-2 [4]                                                    | 108-39-4 [1]<br>95-48-7 [2]<br>106-44-5 [3]<br>1319-77-3 [4]                                                  |          |                   |              |                |              |                      |            |                |
| 39     | 3,4-xylene; [1] 2,5-xylene; [2] 2,4-xylene; [3] 2,3-xylene; [4] 2,6-xylene; [5] xylene; [6] 2,4(or 2,5)-xylene [7] |                                                                                                                     |                                                                                                               |          | <2 mg/kg          |              | <2 mg/kg       | <0.0002 %    |                      |            | <LOD           |
|        | 604-006-00-X                                                                                                       | 202-439-5 [1]<br>202-461-5 [2]<br>203-321-6 [3]<br>208-395-3 [4]<br>209-400-1 [5]<br>215-089-3 [6]<br>276-245-4 [7] | 95-65-8 [1]<br>95-87-4 [2]<br>105-67-9 [3]<br>526-75-0 [4]<br>576-26-1 [5]<br>1300-71-6 [6]<br>71975-58-1 [7] |          |                   |              |                |              |                      |            |                |
| Total: |                                                                                                                    |                                                                                                                     |                                                                                                               |          |                   |              |                |              | 0.0171 %             |            |                |



Key

|                                                                                   |                                                                                                                                 |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   | User supplied data                                                                                                              |
|                                                                                   | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
| •                                                                                 | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|  | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD                                                                              | Below limit of detection                                                                                                        |
| CLP: Note 1                                                                       | Only the metal concentration has been used for classification                                                                   |

## Supplementary Hazardous Property Information

**HP 2: Oxidizing** "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because here isn't enough Metal and Cr(VI) to make the Metal chromate - No hazardous levels in any case.

Hazard Statements hit:

**Ox. Sol. 2; H272** "May intensify fire; oxidiser."

Because of determinand:

barium chromate: (compound conc.: 0.00239%)

### WAC results for sample: WS09-0.10--22/11/2023

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

### WAC Determinands

| Solid Waste Analysis |                                                   |        |                   | Landfill Waste Acceptance Criteria Limits |                                                               |                          |
|----------------------|---------------------------------------------------|--------|-------------------|-------------------------------------------|---------------------------------------------------------------|--------------------------|
| #                    | Determinand                                       |        | User entered data | Inert waste landfill                      | Stable non-reactive hazardous waste in non-hazardous landfill | Hazardous waste landfill |
| 1                    | TOC (total organic carbon)                        | %      | 1.7               | 3                                         | 5                                                             | 6                        |
| 2                    | LOI (loss on ignition)                            | %      | 4.57              | -                                         | -                                                             | 10                       |
| 3                    | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg  | <0.01             | 6                                         | -                                                             | -                        |
| 4                    | PCBs (polychlorinated biphenyls, 7 congeners)     | mg/kg  | <0.03             | 1                                         | -                                                             | -                        |
| 5                    | Mineral oil (C10 to C40)                          | mg/kg  | <5                | 500                                       | -                                                             | -                        |
| 6                    | PAHs (polycyclic aromatic hydrocarbons)           | mg/kg  | <2                | 100                                       | -                                                             | -                        |
| 7                    | pH                                                | pH     | 5.6               | -                                         | >6                                                            | -                        |
| 8                    | ANC (acid neutralisation capacity)                | mol/kg | <0.1              | -                                         | -                                                             | -                        |
| Eluate Analysis 10:1 |                                                   |        |                   |                                           |                                                               |                          |
| 9                    | arsenic                                           | mg/kg  | <0.05             | 0.5                                       | 2                                                             | 25                       |
| 10                   | barium                                            | mg/kg  | <0.05             | 20                                        | 100                                                           | 300                      |
| 11                   | cadmium                                           | mg/kg  | <0.01             | 0.04                                      | 1                                                             | 5                        |
| 12                   | chromium                                          | mg/kg  | <0.05             | 0.5                                       | 10                                                            | 70                       |
| 13                   | copper                                            | mg/kg  | <0.05             | 2                                         | 50                                                            | 100                      |
| 14                   | mercury                                           | mg/kg  | <0.01             | 0.01                                      | 0.2                                                           | 2                        |
| 15                   | molybdenum                                        | mg/kg  | <0.05             | 0.5                                       | 10                                                            | 30                       |
| 16                   | nickel                                            | mg/kg  | <0.05             | 0.4                                       | 10                                                            | 40                       |
| 17                   | lead                                              | mg/kg  | <0.05             | 0.5                                       | 10                                                            | 50                       |
| 18                   | antimony                                          | mg/kg  | <0.05             | 0.06                                      | 0.7                                                           | 5                        |
| 19                   | selenium                                          | mg/kg  | <0.05             | 0.1                                       | 0.5                                                           | 7                        |
| 20                   | zinc                                              | mg/kg  | 0.06              | 4                                         | 50                                                            | 200                      |
| 21                   | chloride                                          | mg/kg  | <50               | 800                                       | 15,000                                                        | 25,000                   |
| 22                   | fluoride                                          | mg/kg  | <10               | 10                                        | 150                                                           | 500                      |
| 23                   | sulphate                                          | mg/kg  | <10               | 1,000                                     | 20,000                                                        | 50,000                   |
| 24                   | phenol index                                      | mg/kg  | <0.1              | 1                                         | -                                                             | -                        |
| 25                   | DOC (dissolved organic carbon)                    | mg/kg  | 253               | 500                                       | 800                                                           | 1,000                    |
| 26                   | TDS (total dissolved solids)                      | mg/kg  | <100              | 4,000                                     | 60,000                                                        | 100,000                  |

#### Key

|  |                         |
|--|-------------------------|
|  | User supplied data      |
|  | Not applicable          |
|  | SNRHW WAC criteria fail |

**Classification of sample: WS09-0.80--22/11/2023**

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                                         |                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|
| Sample name:                            | LoW Code:                                                                                          |
| <b>WS09-0.80--22/11/2023</b>            | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content:                       | Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                           |
| <b>15.3%</b><br>(wet weight correction) |                                                                                                    |

**Hazard properties**

None identified

**Determinands**

Moisture content: 15.3% Wet Weight Moisture Correction applied (MC)

| #  |                                                                                     | Determinand                                                                                                                                             |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value |  | MC Applied | Conc. Not Used |
|----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|--|------------|----------------|
|    |                                                                                     | EU CLP index number                                                                                                                                     | EC Number | CAS Number |          |                   |       |              |                |       |                      |  |            |                |
| 1  |  | arsenic { arsenic trioxide }                                                                                                                            |           |            |          | 22.9              | mg/kg | 1.32         | 25.609         | mg/kg | 0.00256 %            |  | ✓          |                |
|    |                                                                                     | 033-003-00-0                                                                                                                                            | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |  |            |                |
| 2  |  | beryllium { beryllium oxide }                                                                                                                           |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |  |            | <LOD           |
|    |                                                                                     | 004-003-00-8                                                                                                                                            | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |  |            |                |
| 3  |  | boron { diboron trioxide }                                                                                                                              |           |            |          | 0.7               | mg/kg | 3.22         | 1.909          | mg/kg | 0.000191 %           |  | ✓          |                |
|    |                                                                                     | 005-008-00-8                                                                                                                                            | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |  |            |                |
| 4  |  | cadmium { cadmium oxide }                                                                                                                               |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |  |            | <LOD           |
|    |                                                                                     | 048-002-00-0                                                                                                                                            | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |  |            |                |
| 5  |  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                |           |            |          | 55.1              | mg/kg | 1.462        | 68.21          | mg/kg | 0.00682 %            |  | ✓          |                |
|    |                                                                                     |                                                                                                                                                         | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |  |            |                |
| 6  |  | chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |  |            | <LOD           |
|    |                                                                                     | 024-017-00-8                                                                                                                                            |           |            |          |                   |       |              |                |       |                      |  |            |                |
| 7  |  | copper { dicopper oxide; copper (I) oxide }                                                                                                             |           |            |          | 12.6              | mg/kg | 1.126        | 12.016         | mg/kg | 0.0012 %             |  | ✓          |                |
|    |                                                                                     | 029-002-00-X                                                                                                                                            | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |  |            |                |
| 8  |  | lead { lead chromate }                                                                                                                                  |           |            | 1        | 17.5              | mg/kg | 1.56         | 23.12          | mg/kg | 0.00148 %            |  | ✓          |                |
|    |                                                                                     | 082-004-00-2                                                                                                                                            | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |  |            |                |
| 9  |  | mercury { mercury dichloride }                                                                                                                          |           |            |          | 0.1               | mg/kg | 1.353        | 0.115          | mg/kg | 0.0000115 %          |  | ✓          |                |
|    |                                                                                     | 080-010-00-X                                                                                                                                            | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |  |            |                |
| 10 |  | nickel { nickel chromate }                                                                                                                              |           |            |          | 8.5               | mg/kg | 2.976        | 21.428         | mg/kg | 0.00214 %            |  | ✓          |                |
|    |                                                                                     | 028-035-00-7                                                                                                                                            | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |  |            |                |
| 11 |  | selenium { nickel selenate }                                                                                                                            |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |  |            | <LOD           |
|    |                                                                                     | 028-031-00-5                                                                                                                                            | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |  |            |                |
| 12 |  | zinc { zinc chromate }                                                                                                                                  |           |            |          | 24.1              | mg/kg | 2.774        | 56.628         | mg/kg | 0.00566 %            |  | ✓          |                |
|    |                                                                                     | 024-007-00-3                                                                                                                                            | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |  |            |                |
| 13 |  | TPH (C6 to C40) petroleum group                                                                                                                         |           |            |          | 1.5               | mg/kg |              | 1.271          | mg/kg | 0.000127 %           |  | ✓          |                |
|    |                                                                                     |                                                                                                                                                         |           | TPH        |          |                   |       |              |                |       |                      |  |            |                |
| 14 |                                                                                     | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |  |            | <LOD           |
|    |                                                                                     | 603-181-00-X                                                                                                                                            | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |  |            |                |
| 15 |                                                                                     | benzene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |  |            | <LOD           |
|    |                                                                                     | 601-020-00-8                                                                                                                                            | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |  |            |                |
| 16 |                                                                                     | toluene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |  |            | <LOD           |
|    |                                                                                     | 601-021-00-3                                                                                                                                            | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |  |            |                |

| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20     | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 5 pH              |              | 5 pH           | 5pH         |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 97.1 mg/kg        | 1.785        | 146.82 mg/kg   | 0.0147 %    | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |             | 0.0377 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |



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### Supplementary Hazardous Property Information

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**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because No free phase liquid, to lower concentration to be flammable

Hazard Statements hit:

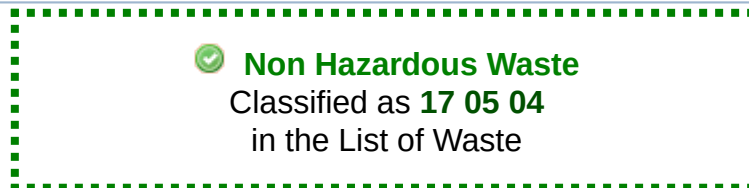
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**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

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TPH (C6 to C40) petroleum group: (conc.: 0.00012%)

**Classification of sample: WS10-0.10--22/11/2023**

**Sample details**

|                              |                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------|
| Sample name:                 | LoW Code:                                                                                 |
| <b>WS10-0.10--22/11/2023</b> | Chapter:                                                                                  |
| Moisture content:            | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| <b>12.2%</b>                 | Entry:                                                                                    |
| (wet weight correction)      | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |

**Hazard properties**

None identified

**Determinands**

Moisture content: 12.2% Wet Weight Moisture Correction applied (MC)

| #  |                                                                                                                                                                                                                                              | Determinand         |           |            | CLP Note | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------|------------|----------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|    |                                                                                                                                                                                                                                              | EU CLP index number | EC Number | CAS Number |          |                   |              |                |              |                      |            |                |
| 1  |  arsenic { arsenic trioxide }                                                                                                                             | 033-003-00-0        | 215-481-4 | 1327-53-3  |          | 6.6 mg/kg         | 1.32         | 7.651 mg/kg    | 0.000765 %   | ✓                    |            |                |
| 2  |  beryllium { beryllium oxide }                                                                                                                            | 004-003-00-8        | 215-133-1 | 1304-56-9  |          | <0.5 mg/kg        | 2.775        | <1.388 mg/kg   | <0.000139 %  |                      | <LOD       |                |
| 3  |  boron { diboron trioxide }                                                                                                                               | 005-008-00-8        | 215-125-8 | 1303-86-2  |          | 0.8 mg/kg         | 3.22         | 2.262 mg/kg    | 0.000226 %   | ✓                    |            |                |
| 4  |  cadmium { cadmium oxide }                                                                                                                                | 048-002-00-0        | 215-146-2 | 1306-19-0  |          | <0.2 mg/kg        | 1.142        | <0.228 mg/kg   | <0.0000228 % |                      | <LOD       |                |
| 5  |  chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |                     | 215-160-9 | 1308-38-9  |          | 16.8 mg/kg        | 1.462        | 21.559 mg/kg   | 0.00216 %    | ✓                    |            |                |
| 6  |  chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } | 024-017-00-8        |           |            |          | <0.8 mg/kg        | 2.27         | <1.816 mg/kg   | <0.000182 %  |                      | <LOD       |                |
| 7  |  copper { dicopper oxide; copper (I) oxide }                                                                                                              | 029-002-00-X        | 215-270-7 | 1317-39-1  |          | 7.7 mg/kg         | 1.126        | 7.612 mg/kg    | 0.000761 %   | ✓                    |            |                |
| 8  |  lead { lead chromate }                                                                                                                                   | 082-004-00-2        | 231-846-0 | 7758-97-6  | 1        | 17 mg/kg          | 1.56         | 23.282 mg/kg   | 0.00149 %    | ✓                    |            |                |
| 9  |  mercury { mercury dichloride }                                                                                                                           | 080-010-00-X        | 231-299-8 | 7487-94-7  |          | <0.1 mg/kg        | 1.353        | <0.135 mg/kg   | <0.0000135 % |                      | <LOD       |                |
| 10 |  nickel { nickel chromate }                                                                                                                               | 028-035-00-7        | 238-766-5 | 14721-18-7 |          | 4 mg/kg           | 2.976        | 10.453 mg/kg   | 0.00105 %    | ✓                    |            |                |
| 11 |  selenium { nickel selenate }                                                                                                                             | 028-031-00-5        | 239-125-2 | 15060-62-5 |          | <1 mg/kg          | 2.554        | <2.554 mg/kg   | <0.000255 %  |                      | <LOD       |                |
| 12 |  zinc { zinc chromate }                                                                                                                                   | 024-007-00-3        | 236-878-9 | 13530-65-9 |          | 43.8 mg/kg        | 2.774        | 106.684 mg/kg  | 0.0107 %     | ✓                    |            |                |
| 13 |  TPH (C6 to C40) petroleum group                                                                                                                          |                     |           | TPH        |          | 6.1 mg/kg         |              | 5.356 mg/kg    | 0.000536 %   | ✓                    |            |                |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                                                                                                     | 603-181-00-X        | 216-653-1 | 1634-04-4  |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      | <LOD       |                |
| 15 | benzene                                                                                                                                                                                                                                      | 601-020-00-8        | 200-753-7 | 71-43-2    |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      | <LOD       |                |
| 16 | toluene                                                                                                                                                                                                                                      | 601-021-00-3        | 203-625-9 | 108-88-3   |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      | <LOD       |                |

| #  | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17 | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18 | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20 | pH<br>PH                                                                                                                                                                                               |                                                                  |                                                              |          | 5.5 pH            |              | 5.5 pH         | 5.5 pH      |                      |            |                |
| 21 | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22 | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23 | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24 | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25 | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26 | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27 | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28 | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29 | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30 | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31 | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32 | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33 | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34 | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35 | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36 | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37 | DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane<br>602-045-00-7                                                                | 200-024-3                                                        | 50-29-3                                                      |          | 0.13 mg/kg        |              | 0.114 mg/kg    | 0.0000114 % | ✓                    |            |                |
| 38 | chlordan (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoinan<br>602-047-00-8                                                                                                        | 200-349-0                                                        | 57-74-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 39 | hexachlorocyclohexanes, including lindane<br>602-043-00-6                                                                                                                                              | 210-168-9,<br>200-401-2,<br>206-270-8,<br>206-271-3              | 58-89-9,<br>319-84-6,<br>319-85-7,<br>608-73-1               |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 40 | dieldrin (ISO)<br>602-049-00-9                                                                                                                                                                         | 200-484-5                                                        | 60-57-1                                                      |          | 0.14 mg/kg        |              | 0.123 mg/kg    | 0.0000123 % | ✓                    |            |                |

| #      | Determinand                                                                                                                                                                    |              |            | CLP Note  | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|-----------|-------------------|--------------|----------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                            | EC Number    | CAS Number |           |                   |              |                |                      |            |                |
| 41     | endrin (ISO);<br>1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene                                                                   | 602-051-00-X | 200-775-7  | 72-20-8   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
| 42     | heptachlor (ISO);<br>1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene                                                                                          | 602-046-00-2 | 200-962-3  | 76-44-8   | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
| 43     | aldrin (ISO)                                                                                                                                                                   | 602-048-00-3 | 206-215-8  | 309-00-2  | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
| 44     | vanadium { divanadium pentaoxide; vanadium pentoxide }                                                                                                                         | 023-001-00-8 | 215-239-8  | 1314-62-1 | 25 mg/kg          | 1.785        | 39.185 mg/kg   | 0.00392 %            | ✓          |                |
| 45     | sulfur { sulfur }                                                                                                                                                              | 016-094-00-1 | 231-722-6  | 7704-34-9 | <20 mg/kg         |              | <20 mg/kg      | <0.002 %             |            | <LOD           |
| 46     | heptachlor epoxide;<br>2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane                                                                              | 602-063-00-5 | 213-831-0  | 1024-57-3 | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
| 47     | p,p'-DDE                                                                                                                                                                       | 200-784-6    | 72-55-9    |           | 0.074 mg/kg       |              | 0.065 mg/kg    | 0.0000065 %          | ✓          |                |
| 48     | p,p'-DDD                                                                                                                                                                       | 200-783-0    | 72-54-8    |           | 0.11 mg/kg        |              | 0.0966 mg/kg   | 0.00000966 %         | ✓          |                |
| 49     | p,p'-methoxychlor                                                                                                                                                              | 200-779-9    | 72-43-5    |           | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %          |            | <LOD           |
| 50     | endosulfan (ISO);<br>1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite;<br>1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite | 602-052-00-5 | 204-079-4  | 115-29-7  | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %          |            | <LOD           |
| Total: |                                                                                                                                                                                |              |            |           |                   |              |                | 0.0245 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
| •           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| •           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

**Supplementary Hazardous Property Information**

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

**Force this Hazardous property to non hazardous because** No free phase liquid, to lower concentration to be flammable

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00053%)



**Classification of sample: WS11-0.20--21/11/2023**

 **Non Hazardous Waste**  
 Classified as **17 05 04**  
 in the List of Waste

**Sample details**

|                                         |                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------|
| Sample name:                            | LoW Code:                                                                                          |
| <b>WS11-0.20--21/11/2023</b>            | Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| Moisture content:                       | Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                           |
| <b>18.5%</b><br>(wet weight correction) |                                                                                                    |

**Hazard properties**

None identified

**Determinands**

Moisture content: 18.5% Wet Weight Moisture Correction applied (MC)

| #  |                                                                                     | Determinand                                                                                                                                             |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value |  | MC Applied | Conc. Not Used |
|----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|--|------------|----------------|
|    |                                                                                     | EU CLP index number                                                                                                                                     | EC Number | CAS Number |          |                   |       |              |                |       |                      |  |            |                |
| 1  |  | arsenic { arsenic trioxide }                                                                                                                            |           |            |          | 9.3               | mg/kg | 1.32         | 10.007         | mg/kg | 0.001 %              |  | ✓          |                |
|    |                                                                                     | 033-003-00-0                                                                                                                                            | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |  |            |                |
| 2  |  | beryllium { beryllium oxide }                                                                                                                           |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |  |            | <LOD           |
|    |                                                                                     | 004-003-00-8                                                                                                                                            | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |  |            |                |
| 3  |  | boron { diboron trioxide }                                                                                                                              |           |            |          | 0.7               | mg/kg | 3.22         | 1.837          | mg/kg | 0.000184 %           |  | ✓          |                |
|    |                                                                                     | 005-008-00-8                                                                                                                                            | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |  |            |                |
| 4  |  | cadmium { cadmium oxide }                                                                                                                               |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |  |            | <LOD           |
|    |                                                                                     | 048-002-00-0                                                                                                                                            | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |  |            |                |
| 5  |  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                |           |            |          | 18.3              | mg/kg | 1.462        | 21.798         | mg/kg | 0.00218 %            |  | ✓          |                |
|    |                                                                                     |                                                                                                                                                         | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |  |            |                |
| 6  |  | chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |  |            | <LOD           |
|    |                                                                                     | 024-017-00-8                                                                                                                                            |           |            |          |                   |       |              |                |       |                      |  |            |                |
| 7  |  | copper { dicopper oxide; copper (I) oxide }                                                                                                             |           |            |          | 5                 | mg/kg | 1.126        | 4.588          | mg/kg | 0.000459 %           |  | ✓          |                |
|    |                                                                                     | 029-002-00-X                                                                                                                                            | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |  |            |                |
| 8  |  | lead { lead chromate }                                                                                                                                  |           |            | 1        | 16.3              | mg/kg | 1.56         | 20.721         | mg/kg | 0.00133 %            |  | ✓          |                |
|    |                                                                                     | 082-004-00-2                                                                                                                                            | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |  |            |                |
| 9  |  | mercury { mercury dichloride }                                                                                                                          |           |            |          | <0.1              | mg/kg | 1.353        | <0.135         | mg/kg | <0.0000135 %         |  |            | <LOD           |
|    |                                                                                     | 080-010-00-X                                                                                                                                            | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |  |            |                |
| 10 |  | nickel { nickel chromate }                                                                                                                              |           |            |          | 3.8               | mg/kg | 2.976        | 9.217          | mg/kg | 0.000922 %           |  | ✓          |                |
|    |                                                                                     | 028-035-00-7                                                                                                                                            | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |  |            |                |
| 11 |  | selenium { nickel selenate }                                                                                                                            |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |  |            | <LOD           |
|    |                                                                                     | 028-031-00-5                                                                                                                                            | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |  |            |                |
| 12 |  | zinc { zinc chromate }                                                                                                                                  |           |            |          | 22.2              | mg/kg | 2.774        | 50.193         | mg/kg | 0.00502 %            |  | ✓          |                |
|    |                                                                                     | 024-007-00-3                                                                                                                                            | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |  |            |                |
| 13 |  | TPH (C6 to C40) petroleum group                                                                                                                         |           |            |          | 5.6               | mg/kg |              | 4.564          | mg/kg | 0.000456 %           |  | ✓          |                |
|    |                                                                                     |                                                                                                                                                         |           | TPH        |          |                   |       |              |                |       |                      |  |            |                |
| 14 |                                                                                     | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |  |            | <LOD           |
|    |                                                                                     | 603-181-00-X                                                                                                                                            | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |  |            |                |
| 15 |                                                                                     | benzene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |  |            | <LOD           |
|    |                                                                                     | 601-020-00-8                                                                                                                                            | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |  |            |                |
| 16 |                                                                                     | toluene                                                                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |  |            | <LOD           |
|    |                                                                                     | 601-021-00-3                                                                                                                                            | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |  |            |                |

| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |              | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|--------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |              |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 %  |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 %  |                      |            | <LOD           |
| 20     | pH                                                                                                                                                                                                     |                                                                  | PH                                                           |          | 5.8 pH            |              | 5.8 pH         | 5.8 pH       |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            | 208-96-8                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              | 83-32-9                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  | 86-73-7                                                          |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              | 85-01-8                                                          |                                                              |          | 0.02 mg/kg        |              | 0.0163 mg/kg   | 0.00000163 % | ✓                    |            |                |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                | 120-12-7                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              | 206-44-0                                                         |                                                              |          | 0.08 mg/kg        |              | 0.0652 mg/kg   | 0.00000652 % | ✓                    |            |                |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    | 129-00-0                                                         |                                                              |          | 0.07 mg/kg        |              | 0.0571 mg/kg   | 0.00000571 % | ✓                    |            |                |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | 0.02 mg/kg        |              | 0.0163 mg/kg   | 0.00000163 % | ✓                    |            |                |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | 0.04 mg/kg        |              | 0.0326 mg/kg   | 0.00000326 % | ✓                    |            |                |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 %  |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | 0.04 mg/kg        |              | 0.0326 mg/kg   | 0.00000326 % | ✓                    |            |                |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      | 193-39-5                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        | 191-24-2                                                         |                                                              |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 %  |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 38.9 mg/kg        | 1.785        | 56.597 mg/kg   | 0.00566 %    | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %     |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |              | 0.0201 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

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### Supplementary Hazardous Property Information

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**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No free phase liquid, to lower concentration to be flammable

Hazard Statements hit:

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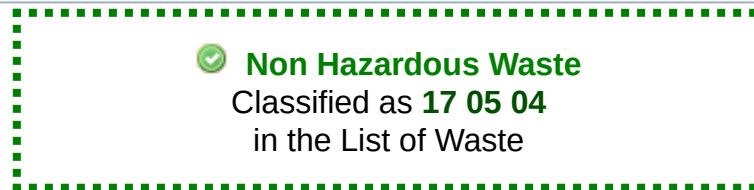
**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

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TPH (C6 to C40) petroleum group: (conc.: 0.00045%)

Classification of sample: WS11-0.80--21/11/2023


**Sample details**

|                                         |                                                                                           |
|-----------------------------------------|-------------------------------------------------------------------------------------------|
| Sample name:                            | LoW Code:                                                                                 |
| <b>WS11-0.80--21/11/2023</b>            | Chapter:                                                                                  |
| Moisture content:                       | 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) |
| <b>16.9%</b><br>(wet weight correction) | Entry:                                                                                    |
|                                         | 17 05 04 (Soil and stones other than those mentioned in 17 05 03)                         |

**Hazard properties**

None identified

**Determinands**

Moisture content: 16.9% Wet Weight Moisture Correction applied (MC)

| #  | Determinand                                                                                                                                              |           |            | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | EU CLP index number                                                                                                                                      | EC Number | CAS Number |          |                   |       |              |                |       |                      |            |                |
| 1  | arsenic { arsenic trioxide }                                                                                                                             |           |            |          | 20.9              | mg/kg | 1.32         | 22.931         | mg/kg | 0.00229 %            | ✓          |                |
|    | 033-003-00-0                                                                                                                                             | 215-481-4 | 1327-53-3  |          |                   |       |              |                |       |                      |            |                |
| 2  | beryllium { beryllium oxide }                                                                                                                            |           |            |          | <0.5              | mg/kg | 2.775        | <1.388         | mg/kg | <0.000139 %          |            | <LOD           |
|    | 004-003-00-8                                                                                                                                             | 215-133-1 | 1304-56-9  |          |                   |       |              |                |       |                      |            |                |
| 3  | boron { diboron trioxide }                                                                                                                               |           |            |          | 0.6               | mg/kg | 3.22         | 1.605          | mg/kg | 0.000161 %           | ✓          |                |
|    | 005-008-00-8                                                                                                                                             | 215-125-8 | 1303-86-2  |          |                   |       |              |                |       |                      |            |                |
| 4  | cadmium { cadmium oxide }                                                                                                                                |           |            |          | <0.2              | mg/kg | 1.142        | <0.228         | mg/kg | <0.0000228 %         |            | <LOD           |
|    | 048-002-00-0                                                                                                                                             | 215-146-2 | 1306-19-0  |          |                   |       |              |                |       |                      |            |                |
| 5  | chromium in chromium(III) compounds { chromium(III) oxide (worst case) }                                                                                 |           |            |          | 32.4              | mg/kg | 1.462        | 39.352         | mg/kg | 0.00394 %            | ✓          |                |
|    |                                                                                                                                                          | 215-160-9 | 1308-38-9  |          |                   |       |              |                |       |                      |            |                |
| 6  | chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } |           |            |          | <0.8              | mg/kg | 2.27         | <1.816         | mg/kg | <0.000182 %          |            | <LOD           |
|    | 024-017-00-8                                                                                                                                             |           |            |          |                   |       |              |                |       |                      |            |                |
| 7  | copper { dicopper oxide; copper (I) oxide }                                                                                                              |           |            |          | 5.8               | mg/kg | 1.126        | 5.427          | mg/kg | 0.000543 %           | ✓          |                |
|    | 029-002-00-X                                                                                                                                             | 215-270-7 | 1317-39-1  |          |                   |       |              |                |       |                      |            |                |
| 8  | lead { lead chromate }                                                                                                                                   |           |            | 1        | 11.6              | mg/kg | 1.56         | 15.036         | mg/kg | 0.000964 %           | ✓          |                |
|    | 082-004-00-2                                                                                                                                             | 231-846-0 | 7758-97-6  |          |                   |       |              |                |       |                      |            |                |
| 9  | mercury { mercury dichloride }                                                                                                                           |           |            |          | <0.1              | mg/kg | 1.353        | <0.135         | mg/kg | <0.0000135 %         |            | <LOD           |
|    | 080-010-00-X                                                                                                                                             | 231-299-8 | 7487-94-7  |          |                   |       |              |                |       |                      |            |                |
| 10 | nickel { nickel chromate }                                                                                                                               |           |            |          | 4.7               | mg/kg | 2.976        | 11.624         | mg/kg | 0.00116 %            | ✓          |                |
|    | 028-035-00-7                                                                                                                                             | 238-766-5 | 14721-18-7 |          |                   |       |              |                |       |                      |            |                |
| 11 | selenium { nickel selenate }                                                                                                                             |           |            |          | <1                | mg/kg | 2.554        | <2.554         | mg/kg | <0.000255 %          |            | <LOD           |
|    | 028-031-00-5                                                                                                                                             | 239-125-2 | 15060-62-5 |          |                   |       |              |                |       |                      |            |                |
| 12 | zinc { zinc chromate }                                                                                                                                   |           |            |          | 17.4              | mg/kg | 2.774        | 40.112         | mg/kg | 0.00401 %            | ✓          |                |
|    | 024-007-00-3                                                                                                                                             | 236-878-9 | 13530-65-9 |          |                   |       |              |                |       |                      |            |                |
| 13 | TPH (C6 to C40) petroleum group                                                                                                                          |           |            |          | <1                | mg/kg |              | <1             | mg/kg | <0.0001 %            |            | <LOD           |
|    |                                                                                                                                                          |           | TPH        |          |                   |       |              |                |       |                      |            |                |
| 14 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane                                                                                                 |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 603-181-00-X                                                                                                                                             | 216-653-1 | 1634-04-4  |          |                   |       |              |                |       |                      |            |                |
| 15 | benzene                                                                                                                                                  |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 601-020-00-8                                                                                                                                             | 200-753-7 | 71-43-2    |          |                   |       |              |                |       |                      |            |                |
| 16 | toluene                                                                                                                                                  |           |            |          | <0.01             | mg/kg |              | <0.01          | mg/kg | <0.000001 %          |            | <LOD           |
|    | 601-021-00-3                                                                                                                                             | 203-625-9 | 108-88-3   |          |                   |       |              |                |       |                      |            |                |



| #      | Determinand                                                                                                                                                                                            |                                                                  |                                                              | CLP Note | User entered data | Conv. Factor | Compound conc. |             | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------|----------|-------------------|--------------|----------------|-------------|----------------------|------------|----------------|
|        | EU CLP index number                                                                                                                                                                                    | EC Number                                                        | CAS Number                                                   |          |                   |              |                |             |                      |            |                |
| 17     | ethylbenzene<br>601-023-00-4                                                                                                                                                                           | 202-849-4                                                        | 100-41-4                                                     |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 18     | xylene<br>601-022-00-9                                                                                                                                                                                 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] |          | <0.01 mg/kg       |              | <0.01 mg/kg    | <0.000001 % |                      |            | <LOD           |
| 19     | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }<br>006-007-00-5 |                                                                  |                                                              |          | <1 mg/kg          | 1.884        | <1.884 mg/kg   | <0.000188 % |                      |            | <LOD           |
| 20     | pH<br>PH                                                                                                                                                                                               |                                                                  |                                                              |          | 5.2 pH            |              | 5.2 pH         | 5.2 pH      |                      |            |                |
| 21     | naphthalene<br>601-052-00-2                                                                                                                                                                            | 202-049-5                                                        | 91-20-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 22     | acenaphthylene<br>205-917-1                                                                                                                                                                            |                                                                  | 208-96-8                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 23     | acenaphthene<br>201-469-6                                                                                                                                                                              |                                                                  | 83-32-9                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 24     | fluorene<br>201-695-5                                                                                                                                                                                  |                                                                  | 86-73-7                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 25     | phenanthrene<br>201-581-5                                                                                                                                                                              |                                                                  | 85-01-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 26     | anthracene<br>204-371-1                                                                                                                                                                                |                                                                  | 120-12-7                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 27     | fluoranthene<br>205-912-4                                                                                                                                                                              |                                                                  | 206-44-0                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 28     | pyrene<br>204-927-3                                                                                                                                                                                    |                                                                  | 129-00-0                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 29     | benzo[a]anthracene<br>601-033-00-9                                                                                                                                                                     | 200-280-6                                                        | 56-55-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 30     | chrysene<br>601-048-00-0                                                                                                                                                                               | 205-923-4                                                        | 218-01-9                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 31     | benzo[b]fluoranthene<br>601-034-00-4                                                                                                                                                                   | 205-911-9                                                        | 205-99-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 32     | benzo[k]fluoranthene<br>601-036-00-5                                                                                                                                                                   | 205-916-6                                                        | 207-08-9                                                     |          | <0.03 mg/kg       |              | <0.03 mg/kg    | <0.000003 % |                      |            | <LOD           |
| 33     | benzo[a]pyrene; benzo[def]chrysene<br>601-032-00-3                                                                                                                                                     | 200-028-5                                                        | 50-32-8                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 34     | indeno[123-cd]pyrene<br>205-893-2                                                                                                                                                                      |                                                                  | 193-39-5                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 35     | dibenz[a,h]anthracene<br>601-041-00-2                                                                                                                                                                  | 200-181-8                                                        | 53-70-3                                                      |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 36     | benzo[ghi]perylene<br>205-883-8                                                                                                                                                                        |                                                                  | 191-24-2                                                     |          | <0.02 mg/kg       |              | <0.02 mg/kg    | <0.000002 % |                      |            | <LOD           |
| 37     | vanadium { divanadium pentaoxide; vanadium pentoxide }<br>023-001-00-8                                                                                                                                 | 215-239-8                                                        | 1314-62-1                                                    |          | 49 mg/kg          | 1.785        | 72.691 mg/kg   | 0.00727 %   | ✓                    |            |                |
| 38     | sulfur { sulfur }<br>016-094-00-1                                                                                                                                                                      | 231-722-6                                                        | 7704-34-9                                                    |          | <20 mg/kg         |              | <20 mg/kg      | <0.002 %    |                      |            | <LOD           |
| Total: |                                                                                                                                                                                                        |                                                                  |                                                              |          |                   |              |                |             | 0.0233 %             |            |                |

**Key**

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
|             | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
|             | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

## Appendix A: Classifier defined and non GB MCL determinands

### • chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

### • TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

### • ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

### • salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

### • pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

### • acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

### • acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

### • fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

### • phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

### • anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database  
 Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
 Data source date: 21 Aug 2015  
 Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014  
 Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
 Data source date: 21 Aug 2015  
 Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database  
 Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
 Data source date: 06 Aug 2015  
 Hazard Statements: Carc. 2; H351

■ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015  
 Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
 Data source date: 23 Jul 2015  
 Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **p,p'-DDE** (EC Number: 200-784-6, CAS Number: 72-55-9)

Description/Comments: other names: 4,4'-DDE; 2,2-bis(p-chlorophenyl)-1,1-dichloroethylene  
 Data source: ECHA's C&L inventory database

<https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/-/discli/details/21845>  
 Data source date: 11 Jan 2018  
 Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **p,p'-DDD** (EC Number: 200-783-0, CAS Number: 72-54-8)

Description/Comments: other names: Rhothane; p,p'-TDE; 4,4'-DDD; 4,4'-TDE;  
 Data source: ECHA's C&L inventory database

<https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/-/discli/details/21283>  
 Data source date: 11 Jan 2018  
 Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **p,p'-methoxychlor** (EC Number: 200-779-9, CAS Number: 72-43-5)

Description/Comments: other names: Methoxychlor; DMDT; Dimethoxy-DDT; Methoxy-DDT; Methoxcide; p,p'-Dimethoxydiphenyltrichloroethane; 1,1,1-Trichloro-2,2-bis(4-methoxyphenyl)ethane  
 Data source: ECHA's C&L inventory database

<https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/-/discli/details/112624>  
 Data source date: 11 Jan 2018  
 Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4  
 Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

■ **barium chromate** (EC Number: 233-660-5, CAS Number: 10294-40-3)

Description/Comments: Data from ECHA's C&L inventory database and Sigma Aldrich SDS Revision 6.2 dated 08/05/20  
 Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/38286>  
 Data source date: 12 May 2020  
 Hazard Statements: Ox. Sol. 2; H272 , Acute Tox. 4; H302 , Acute Tox. 4; H332 , Carc. 1B; H350

## Appendix B: Rationale for selection of metal species

### arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

### beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics (edit as required)

### boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

### cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

### chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

### chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

### copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

### lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

### vanadium {divanadium pentaoxide; vanadium pentoxide}

Most likely occurrence

### sulfur {sulfur}

Most likely occurrence

### antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings (edit as required)

### molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### barium {barium chromate}

Highest risk species



## Appendix C: Version

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HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**  
HazWasteOnline Classification Engine Version: 2023.352.5868.10865 (18 Dec 2023)  
HazWasteOnline Database: 2023.348.5858.10852 (16 Dec 2023)

This classification utilises the following guidance and legislation:

**WM3 v1.2.GB - Waste Classification** - 1st Edition v1.2.GB - Oct 2021

**CLP Regulation** - Regulation 1272/2008/EC of 16 December 2008

**1st ATP** - Regulation 790/2009/EC of 10 August 2009

**2nd ATP** - Regulation 286/2011/EC of 10 March 2011

**3rd ATP** - Regulation 618/2012/EU of 10 July 2012

**4th ATP** - Regulation 487/2013/EU of 8 May 2013

**Correction to 1st ATP** - Regulation 758/2013/EU of 7 August 2013

**5th ATP** - Regulation 944/2013/EU of 2 October 2013

**6th ATP** - Regulation 605/2014/EU of 5 June 2014

**WFD Annex III replacement** - Regulation 1357/2014/EU of 18 December 2014

**Revised List of Waste 2014** - Decision 2014/955/EU of 18 December 2014

**7th ATP** - Regulation 2015/1221/EU of 24 July 2015

**8th ATP** - Regulation (EU) 2016/918 of 19 May 2016

**9th ATP** - Regulation (EU) 2016/1179 of 19 July 2016

**10th ATP** - Regulation (EU) 2017/776 of 4 May 2017

**HP14 amendment** - Regulation (EU) 2017/997 of 8 June 2017

**13th ATP** - Regulation (EU) 2018/1480 of 4 October 2018

**14th ATP** - Regulation (EU) 2020/217 of 4 October 2019

**15th ATP** - Regulation (EU) 2020/1182 of 19 May 2020

**The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)**

**Regulations 2020** - UK: 2020 No. 1567 of 16th December 2020

**The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020** - UK: 2020 No. 1540 of 16th December 2020

**GB MCL List** - version 1.1 of 09 June 2021

**GB MCL List v2.0** - version 2.0 of 20th October 2023