# Flood Risk Assessment Report

1a Polygon Rd, London NW1 1QB

On behalf of Origin Housing Limited

| Report Reference: GWPR5556/FRA/September 2023 | | | Status: Final |
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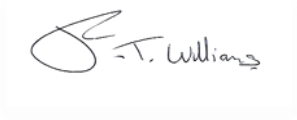
| Issue | Prepared By | Checked By | Verified By |
| V1.02 |  |  |  |
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# 1.0 INTRODUCTION

## 1.1 General

Ground and Water Limited were instructed by Origin Housing Limited on 18/08/2023 to conduct a Phase I Desk Study on the site at 1a Polygon Rd, London NW1 1QB. The scope of the investigation was detailed within the fee proposal GW-2230, dated 08/08/2023.

## 1.2 Aims of the Investigation

The aims and objective of the report was to supply the client with a Flood Risk and Drainage Assessment to support a prior approval application for conversion of the premises to residential use. Ground and Water Limited undertook this work following the principles of the National Planning Policy Framework and Technical Guidance-Flooding.

This report has been prepared to consider the risk of flooding to the site and to consider measures that may be required to manage this risk. The potential impacts of climate change together with the risk of flooding to others have also been taken into account. The disposal of surface water has also been addressed.

Flood Risk Assessment report has been prepared to support a prior approval application. This flood risk assessment report should be included with any application to the Local Planning Authority who will undoubtedly consult with Environment Agency during the planning process.

The report has also been prepared using desk based information and information provided by the client, local authority, Environmental Agency and Groundsure.

## 1.3 Legislative Background, Conditions and Limitations

Ground and Water Limited has prepared this report following the principles of the National Planning Policy Framework (NPPF) and Technical Guidance-Flooding, published March 2012 (updated 2020/2023), and Planning Practice Guidance (PPG) for Flooding published in March 2014. Details on the legislative background, and conditions and limitations of this report are provided in Appendix A.

## 1.4 Technical Glossary

A technical glossary of terms within this report has been provided within Appendix B.

# 2.0 SITE SETTING

## 2.1 Site Location

The site comprised a ~100m$^2$ rectangular-shaped plot of land, orientated in a north-west to south-east direction, along the south-eastern side of Polygon Road. The site was located in the southern portion of the London Borough of Camden, north London. The national grid reference for the centre of the site was approximately TQ 29514 82985. A site location plan is given within Figure 1.

## 2.2 Site Description

At the time of the site walkover, 21/08/2023, the site was predominantly comprised of a three-story building, connected to adjacent buildings, however very overgrown.

## 2.3 Proposed Development

At the time of reporting, September 2023, the proposed development was understood to comprise the conversion of the existing ground floor, first floor and second floor area, from offices into residential housing. The proposed development plan can be seen within Figure 2.

## 2.4 Geology

The British Geological Survey Solid and Drift Geology Map (north London Sheet No. 256) revealed that the site was underlain bedrock deposits of the London Clay Formation. An area of Worked Ground was noted 36m south-east of the site, associated with the London Underground Northern Line. No superficial deposits, outcrops of other bedrock deposits or other areas of Made/Worked Ground were noted within a 250m radius of the site.

A BGS borehole (TQ28SE2052) located ~15m south-west of the site revealed a capping of Paving stone/brick and rubble fill over Made Ground to 1.40m bgl, followed by Brown/Grey London Clay 18.90m bgl. Perched groundwater was noted at 5.70m bgl.

## 2.5 Hydrogeology and Hydrology

A study of the aquifer maps on the DEFRA website revealed the site was underlain by an **Unproductive Strata** comprising bedrock deposits of the London Clay Formation.

Examination of the Environment Agency records showed that the site **did not** fall within a Groundwater Source Protection Zone (SPZ) as classified in the Policy and Practice for the Protection of Groundwater.

No surface water features were present within a 250m radius of the site. The nearest surface water feature was the Regent's Canal located ~650m north-east of the site. The easterly flowing River Thames was noted ~2.60km south-east of the site

From analysis of hydrogeological and topographical maps, the groundwater table was anticipated to be encountered at depth below the London Clay Formation; however, perched water may cap the London Clay Formation and be found within the shallow surface soils (i.e. Topsoil or Made Ground), especially after periods of prolonged or intense rainfall. It was considered that groundwater was flowing in a south-easterly direction toward the Regents Canal in line with local topography.

Examination of the Environment Agency records showed that the site was located within a Flood Zone

1, i.e. an area with a very low probability of flooding.

The Groundsure Datasheets revealed the site was at a low risk of flooding from rivers and the sea. The datasheets also revealed the site had a low risk of groundwater flooding and also a negligible risk for surface water flooding.

### 2.6 Topography

The site is relatively flat, along with the surrounding area.

# 3.0 FLOOD RISK ASSESSMENT

A number of desk based resources (GroundSure Datasheets (Appendix C) and Environment Agency Flood Maps (Within the Figures)) have been used to assess various types of flood risk, detailed within this section of the report.

## 3.1 Flood Risk From Rivers and Seas, and Flood Defences

National Planning Policy Framework and Technical Guidance-Flooding, published March 2012 (updated 2020/2023), and Planning Practice Guidance (PPG) for Flooding published in March 2014 provides guidance on assessing flood risk and seeks to guide development away from areas at risk of flooding. The Environment Agency defines a number of 'Flood Zones' based on the probability of flooding and provides guidance on the most appropriate forms of development within each zone. The Environment Agency's primary concern is that lives are not put at risk and that the possibility of pollution is reduced to acceptable levels. It is not so concerned about damage to property. The Flood Zones are summarised below.

| Environment Agency Defined Flood Zones | | |
|---|---|---|
| **Zone** | **Annual Probability of Flooding In Any Year** | |
| | **Fluvial Flooding** | **Tidal Flooding** |
| Zone 1 Low Probability | Less than 1 in a 1000 (<0.1%) | Less than 1 in a 1000 (<0.1%) |
| Zone 2 Medium Probability | Between 1 in 1000 and 1 in 100 (0.1% - 1%) | Between 1 in 1000 and 1 in 200 (0.1% - 0.5%) |
| Zone 3a High Probability | Greater than 1 in 100 (>1%) | Greater than 1 in 200 (>0.5%) |
| Zone 3b Functional Floodplain | Greater than 1 in 20 (>5%) | n/a |

These zones do not take account of any flood defences that may exist as these could be overtopped or breached by a more severe flood event than designed for or maintained against.

The Flood Maps for Planning show that the site was classified as a Flood Zone 1. The Environment Agency Flood Map for Planning can be viewed within Figure 3.

## 3.2 Reservoir Flooding

The site was not at risk from reservoir flooding, as shown by the Environment Agency Maps associated with a flood risk from reservoirs, shown in Figure 4.

## 3.3 Surface Water Flooding

A review of the online Environment Agency's Maps for Long Term Flood Risk revealed that the risk of surface water flooding across the majority of the site was negligible; however, two areas of low risk were located ~20m north and south-east of the site. Low risk surface water flooding was also related to the train station to the west. The Environment Agency Surface Water Flood Risk Map can be seen within Figure 5.

## 3.4 Groundwater Flooding

Based on a review of the GroundSure Datasheets, provided within Appendix C, the site was at low risk from groundwater flooding. The groundwater was anticipated to be at depth and no permeable superficial deposits were anticipated on-site. Perched water however may cap the impermeable

London Clay Formation.

### 3.5 Sewer Flooding

The site was not in a post code area where internal or external sewer flooding incidents have been recorded, as shown by Figure 6 and 7.

### 3.6 Critical Drainage Areas

The site was located in the River Fleet Catchment Critical Drainage Area (CDA) (Group 3_003). In this catchment, the main source of flooding is pluvial (rainfall). The site was however not located in a Local Flood Risk Zone (LFRZ). This is shown by Figure 8.

The site was also located in the larger Counter's Creek Hydraulic Catchment, as shown by Figure 9. This catchment area relates to a large sewer network. Over the last 20 years, changes in land use, planning and population have meant an increase in the volume of water entering the system and the speed at which it gets there have increased, leading to the sewer system being overwhelmed.

### 3.7 Lost/Subterranean Rivers

The site was not located near to a lost/subterranean river, as shown by Figure 10.

### 3.8 Historical Flooding

Based on a review of the GroundSure Datasheets, provided within Appendix C, there were no historical flood events on-site or within a 250m radius.

# 4.0 SITE ASSESSMENT

## 4.1 Vulnerability Classification

Table 2 of PPG (Planning Practice Guidance published in March 2014) defines the 'Flood Risk Vulnerability Classification' of a particular land use. This classification was based partly on DEFRA/Environment Agency research on flood risk to people and also the need of some uses to keep functioning during flooding.

The site's vulnerability classification was **'Less Vulnerable'**, as the existing land-use (for the main land) was for commercial use. The proposed development will be upgraded to "More Vulnerable" due to the land use changing from commercial to residential use. No lower ground floors/ basements were existing or proposed.

## 4.2 Sequential and Exception Tests

NPPF and PPG require that at all stages of planning; a Sequential Test is completed with the aim of steering new development to areas at the lowest probability of flooding (Zone 1). The Sequential Test would normally be completed by the Local Planning Authority (LPA). The Sequential Test should be applied to the whole local planning authority area to increase the possibilities of accommodating development which is not exposed to flood risk. If it is not possible for development to be located in zones with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied.

Only where the Sequential Test can demonstrate that 'there are no reasonably available sites in Flood Zone 1' will development in Zone 3 be considered and in general only if an Exception Test can be passed. The Exception Test is only applied after the Sequential Test and is intended to ensure that vulnerable types of property are not developed in areas of high flood risk.

Application of the sequential test revealed the development is already contained within a Flood Zone 1; therefore the sequential test is passed and an exception test is not required.

## 4.3 Modelled Flood Levels and Depths

The correspondence provided by the Environment Agency can be viewed in Appendix D highlighted the site was situated in the area with no detailed flood modelling data and therefore a flood risk product was not available.

## 4.4 Surface Water Flooding Risk

The EA online guidance "Flood Risk Assessments: Climate Change Allowances" sets out the climate change allowances for peak rainfall intensity. Given the above, the anticipated flooding depth of 450mm was used which provided a conservative estimate of the modelling for the high risk events. The following peak rainfall intensity allowances have been calculated in the following tables.

| London Management Catchment Peak Rainfall Allowances (3.3% Annual Exceedance Event) | | | | |
|---|---|---|---|---|
| **Epoch** | **Central** | **Anticipated surface water flooding depth (mm)** | **Upper End** | **Anticipated surface water flooding depth (mm)** |
| 2050's | 20% | 540.00 | 35% | 607.50 |
| 2070's | 20% | 540.00 | 35% | 607.50 |

| London Management Catchment Peak Rainfall Allowances (1% Annual Exceedance Event) | | | | |
|---|---|---|---|---|
| **Epoch** | **Central** | **Anticipated surface water flooding depth (mm)** | **Upper End** | **Anticipated surface water flooding depth (mm)** |
| 2050's | 20% | 540.00 | 40% | 630.00 |
| 2070's | 25% | 562.50 | 40% | 630.00 |

Surface water run-off is a major consideration for Flood Risk Assessments because a sudden influx of surface water can easily flood a site.

The proposed development was not likely to increase the amount of hardstanding on-site and therefore it is unlikely that there will be an increased risk of flooding to neighbouring properties. The risk however should be localised.

# 5.0 RECOMMENDATIONS

### 5.1 Recommended Flood Resistance and Resilience Measures Level

As the site was completely within a Flood Zone 1 and no flood models were made available which showed the site being flooded from rivers and seas (which were all distant), no flood resistance measures, resilience measures and excavation routes are considered necessary.

### 5.2 Site Drainage

Methods of keeping the flood risk to a minimum can be applied by the correct implementation of Sustainable Urban Drainage Systems (SUDS).

The majority of new developments are encouraged to use SUDS to manage surface water drainage. This ensures that any volumes and peak flow rates of surface water leaving a developed site are no greater than the rates prior to the proposed development. However, the proposed development is known to be internal changes only, as long as this is the case, SUDS features are not necessary.

To account for climate change, surface water drainage on the site needs to allow for the recommended national precautionary sensitivity range for peak rainfall intensities in accordance with Table B.2 of PPS25. The development must take into account the potential for surface water flooding and a suitable drainage strategy must be implemented.

The principles of SUDS and the requirements of the London Plan (2021) Policies SI 12 and 13. Sustainable Drainage should be applied to reduce the risk of flooding from surface water.

In accordance with the London Plan (2021) Policies SI 12 and 13, Sustainable Drainage the surface water run-off should be managed as close to its source as possible in line with the following drainage hierarchy.

- Rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
- Rainwater infiltration to ground at or close to source
- Rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
- Rainwater discharge direct to a watercourse (unless not appropriate)
- Controlled rainwater discharge to a surface water sewer or drain
- Controlled rainwater discharge to a combined sewer.

Drainage should be designed and implemented in ways that deliver other policy objectives of this Plan, including water use efficiency and quality, biodiversity, amenity and recreation.

It is assumed that drainage systems are already present for the property on-site. The underlying geology was not likely to be suitable for traditional soakaways for surface water disposal. This should be confirmed via infiltration tests.

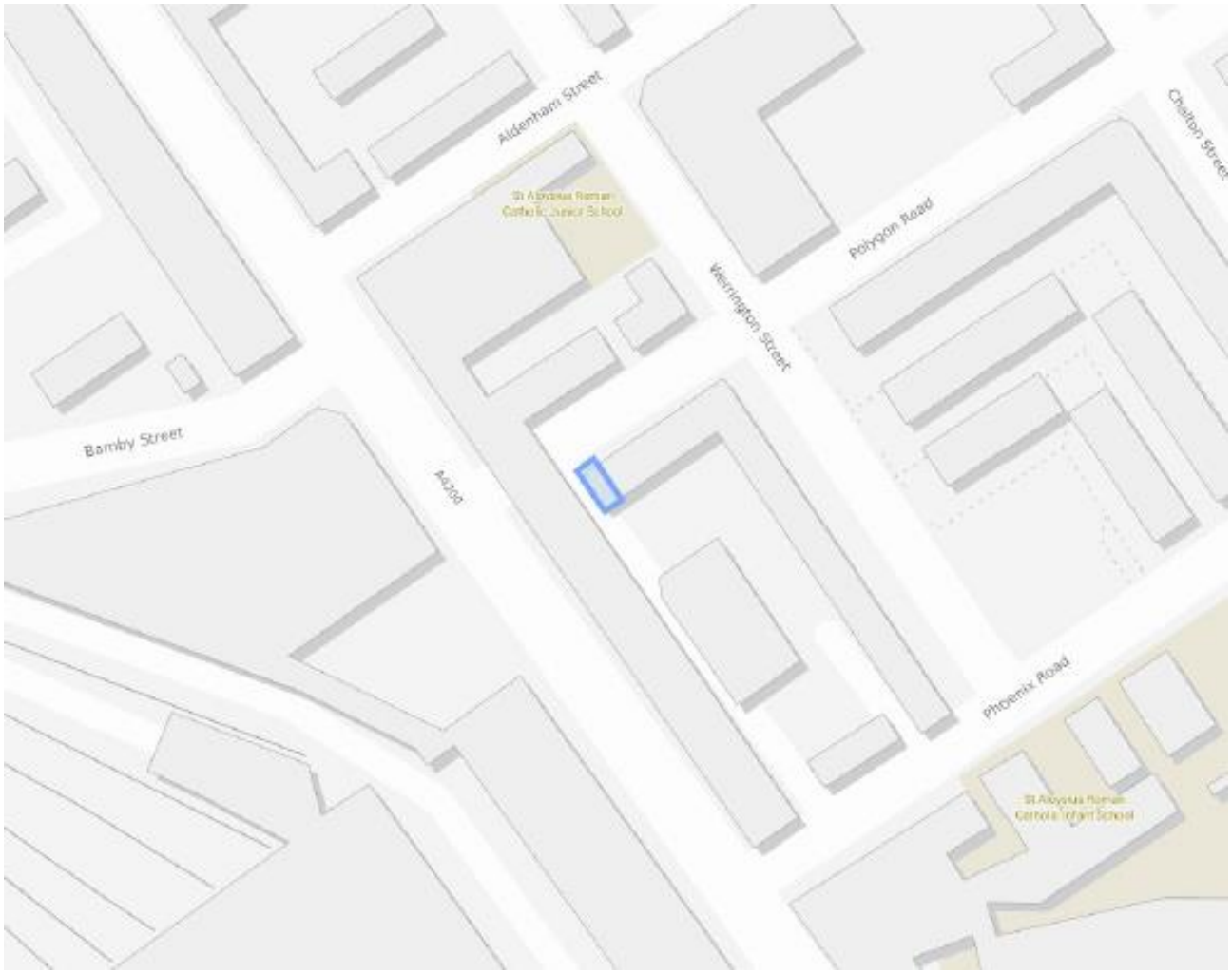
### 5.3 Groundwater Recommendations

There is a potential for encountering groundwater during any excavations. Whilst there is a low risk of groundwater flooding, perched water may be encountered within the Made Ground and on top of the London Clay Formation. Groundwater is generally expected below the London Clay Formation.

Changes in groundwater/perched water level occur for a number of reasons including seasonal effects and variations in drainage. It is prudent to install a groundwater monitoring standpipe as part of the site investigation to confirm groundwater levels.

Should significant amounts of water be encountered across the site, dewatering from sumps introduced into the base of the excavations may be required.

# FIGURES

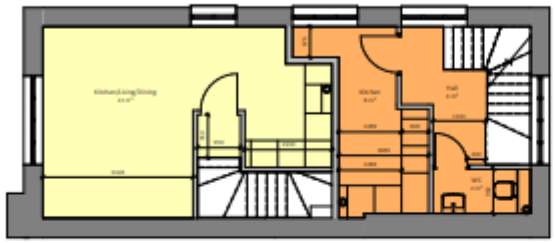



Site Boundary

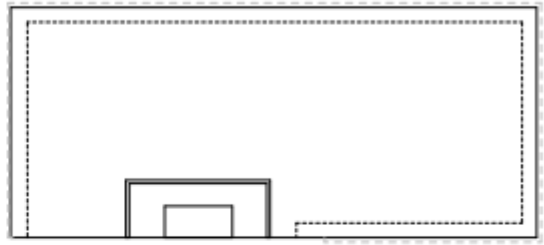
Not To Scale

| | |
|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 1 – Site Location Plan** | **GWPR5556** |

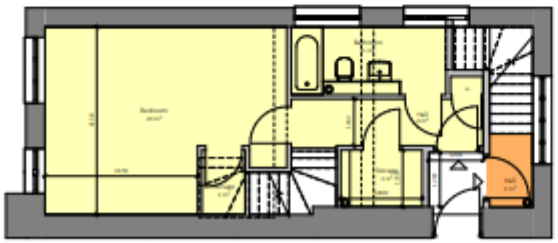
ground&water



FIRST FLOOR PLAN - PROPOSED OPTION 1A
1 : 50



ROOF PLAN - NO CHANGE
1 : 50

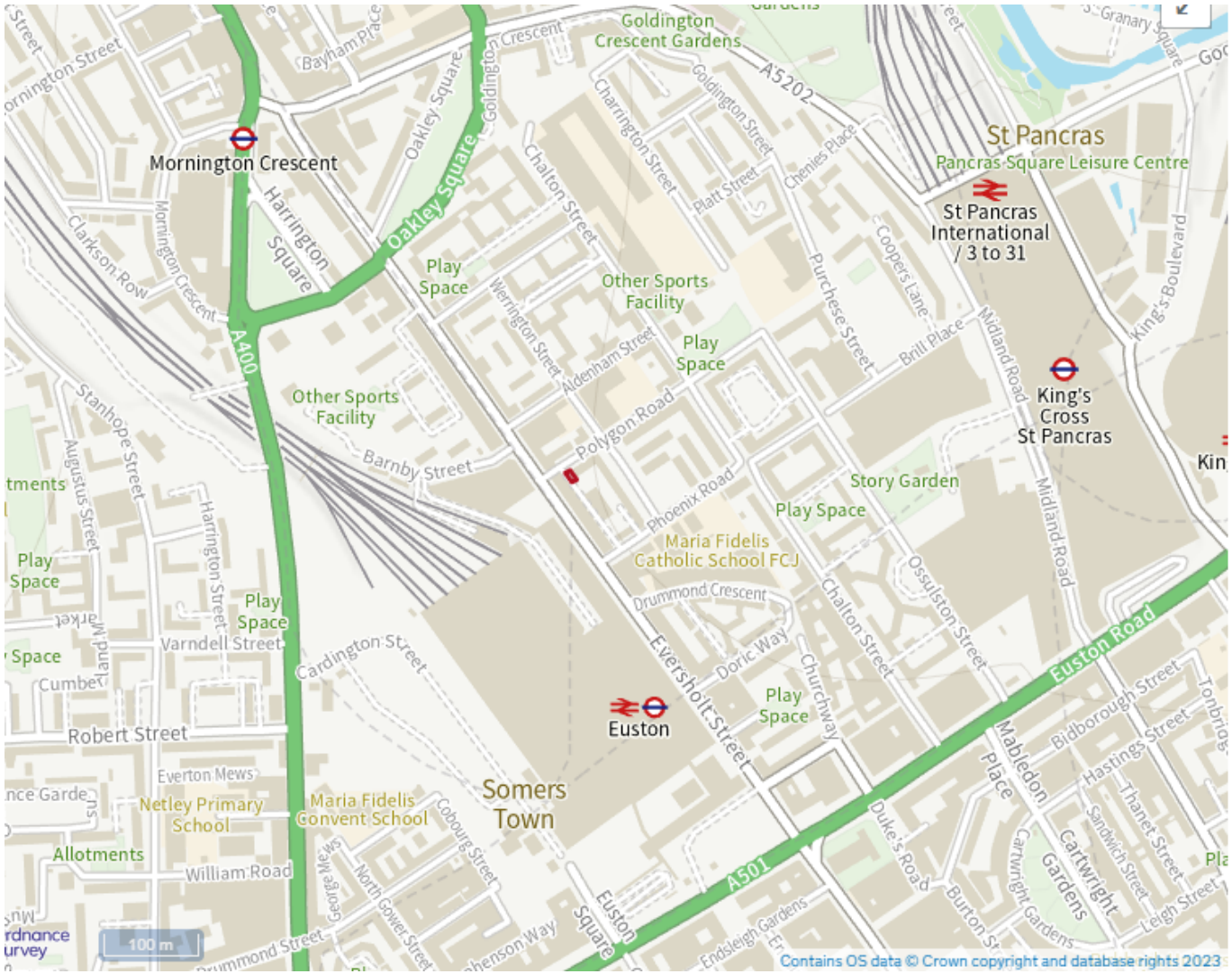


GROUND FLOOR PLAN - PROPOSED OPTION 1A
1 : 50

SECOND FLOOR PLAN - PROPOSED
1 : 50

Approximately 2.5m

| | |
|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 2 – Proposed Development** | **GWPR5556** |




Your site boundary

Flood zone 3

Flood zone 2

Flood zone 1

Flood defence

Main river

Water storage area

Site Boundary

| | |
|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 3 – Environmental Agency Flood Map** | **GWPR5556** |

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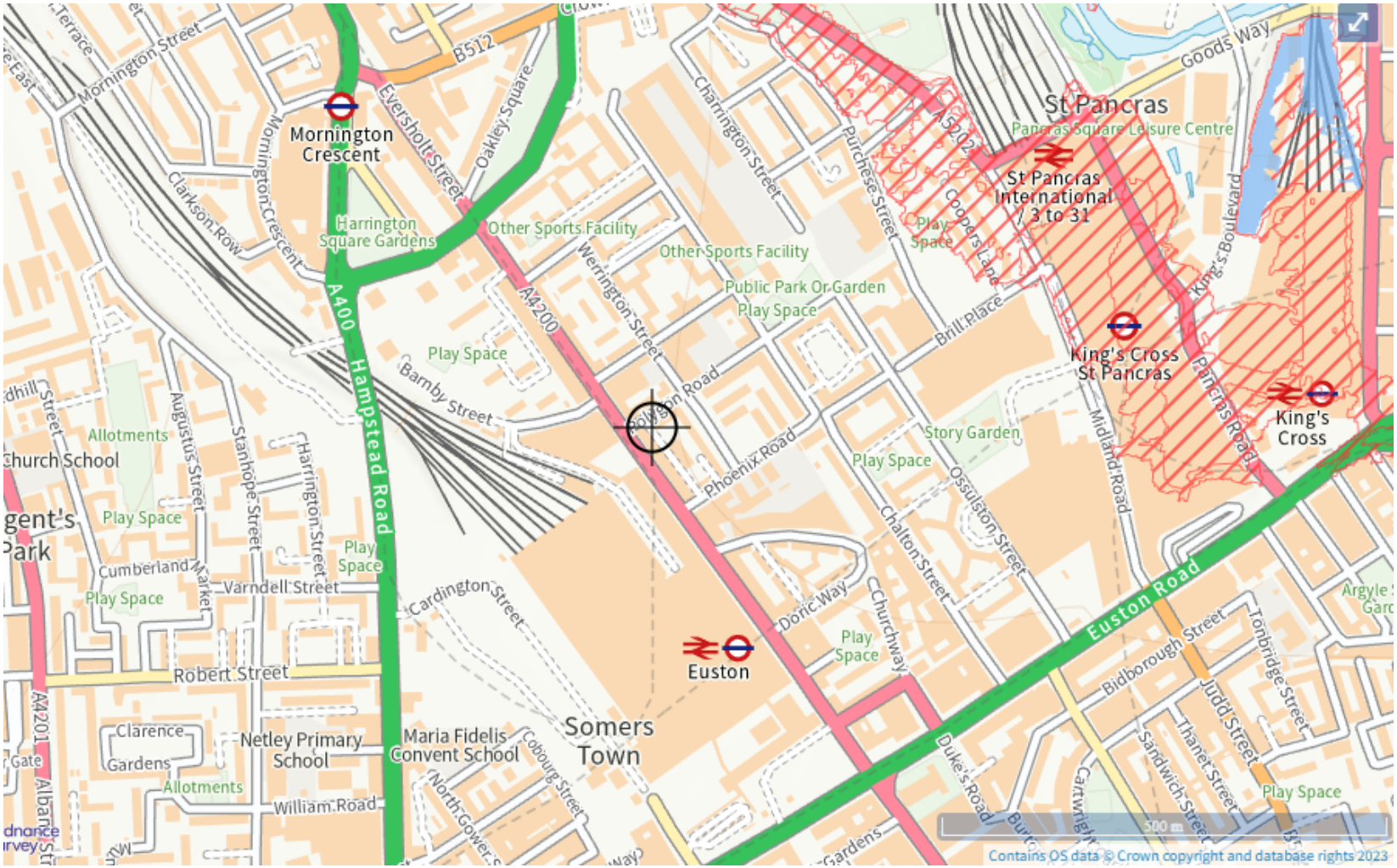
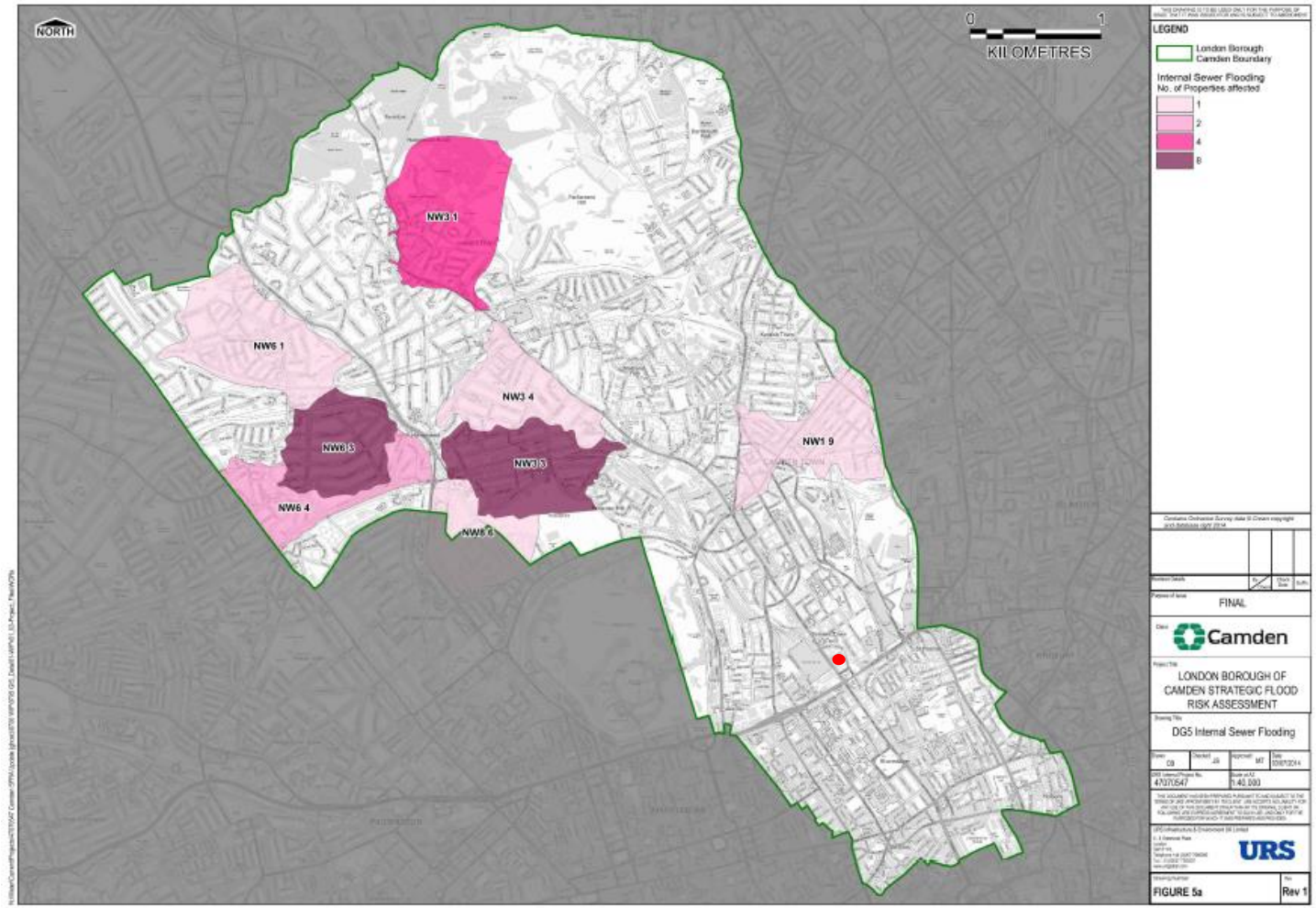



| | |
|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 4 - Reservoir Flooding Risk Map** | **GWPR5556** |


| | |
|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 5 – Surface Water Flooding Map** | **GWPR5556** |




- Site

| | |
|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 6 – Sewer Flooding Map** | **GWPR5556** |

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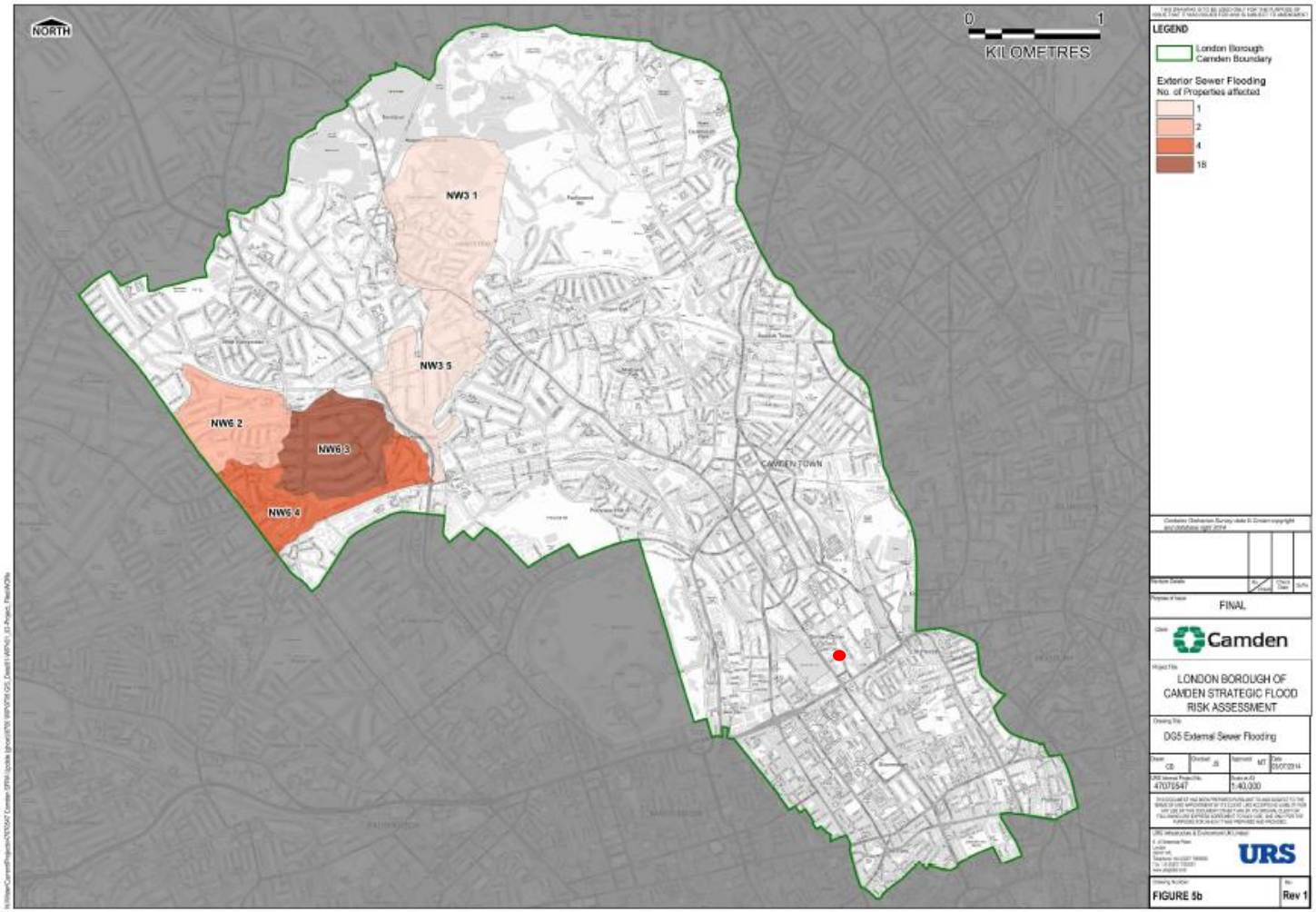


Site

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|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 7 – Sewer Flooding Map** | **GWPR5556** |

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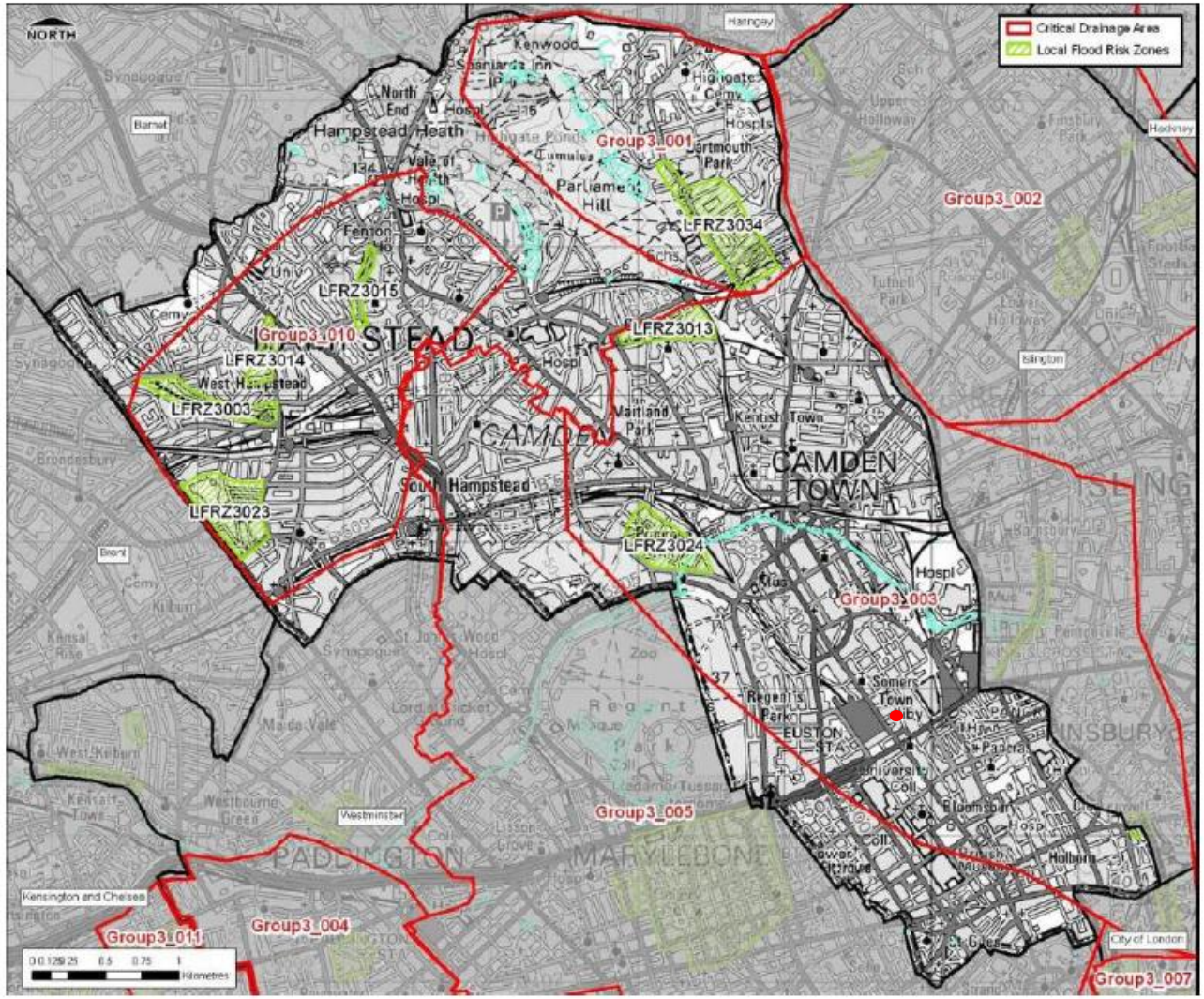


Site

| | |
|---|---|
| **St Richard's House, 110 Eversholt, Street, London, NW1 1BS** | |
| **Origin Housing Limited** | **September 2023** |
| **Figure 8 – Critical Drainage Areas** | **GWPR5556** |

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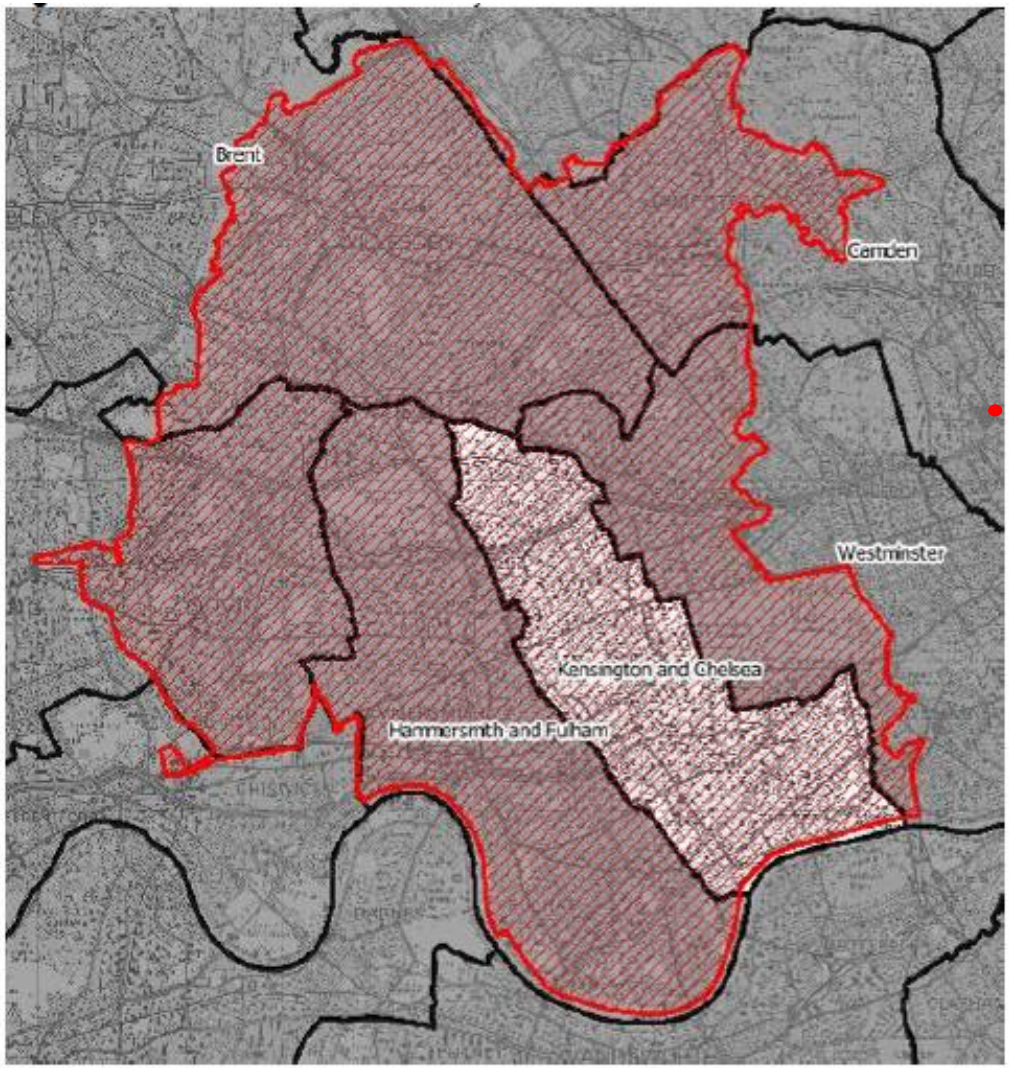


Site

| | |
|---|---|
| St Richard's House, 110 Eversholt, Street, London, NW1 1BS | |
| Origin Housing Limited | September 2023 |
| **Figure 9 – Counter's Creek Hydraulic Catchment** | GWPR5556 |

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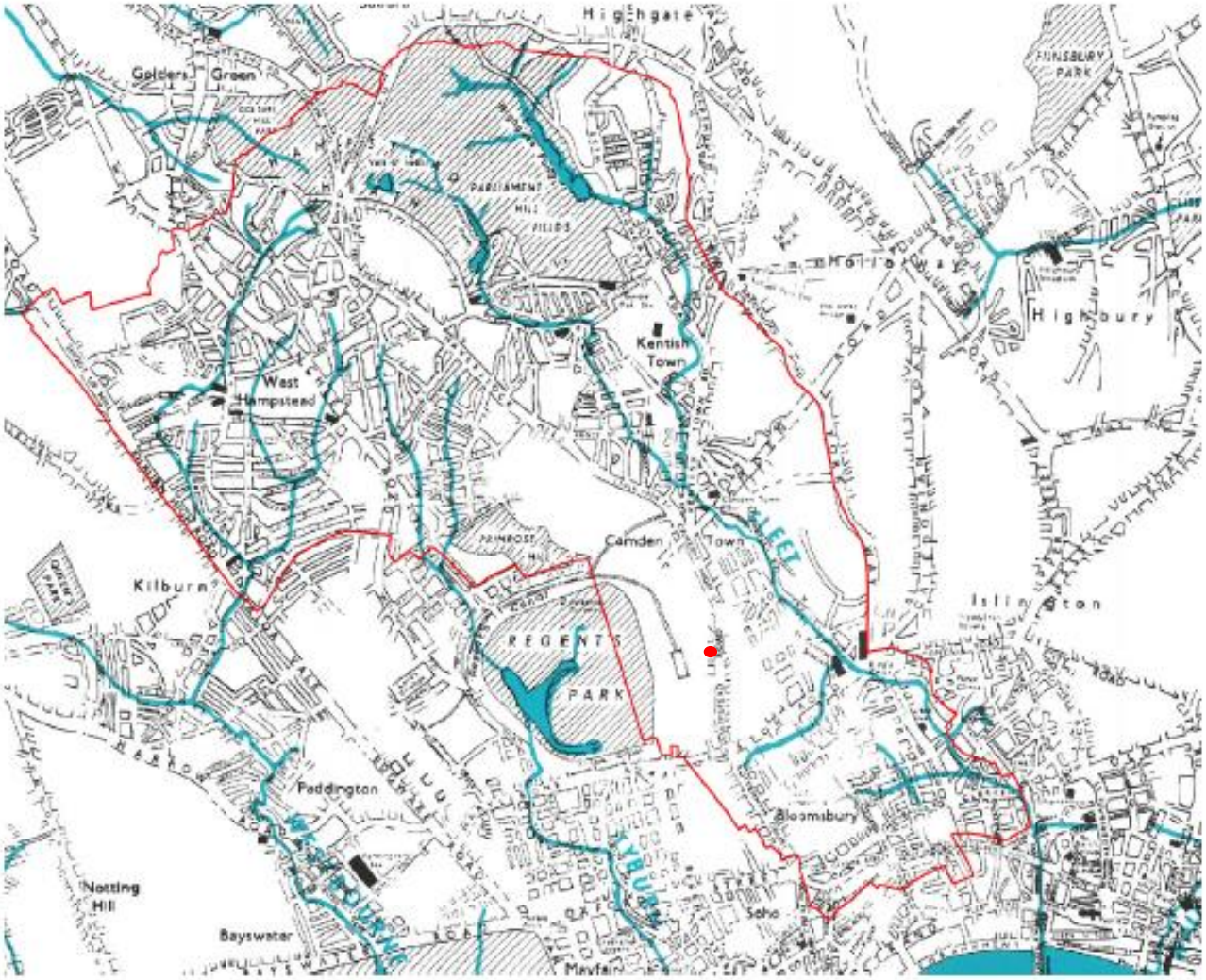


- Site

**St Richard's House, 110 Eversholt, Street, London, NW1 1BS**

| | |
|---|---|
| **Origin Housing Limited** | **September 2023** |

| | | |
|---|---|---|
| **Figure** 10 **– Lost/Subterranean Rivers** | **GWPR5556** |  |

# APPENDIX A: Legislative Background, Conditions and Limitations

The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The report has been prepared on the basis of information, data and materials which were available at the time of writing. Accordingly, any conclusions, opinions or judgements made in the report should not be regarded as definitive or relied upon to the exclusion of other information, opinions and judgements.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief; as such these do not necessarily address all aspects of ground behaviour at the site. No liability is accepted for any reliance placed on it by others unless specifically agreed in writing.

Any decisions made by you, or by any organisation, agency or person who has read, received or been provided with information contained in the report ("you" or "the Recipient") are decisions of the Recipient and we will not make, or be deemed to make, any decisions on behalf of any Recipient. We will not be liable for the consequences of any such decisions.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

Any Recipient must take into account any other factors apart from the Report of which they and their experts and advisers are or should be aware. The information, data, conclusions, opinions and judgements set out in the report may relate to certain contexts and may not be suitable in other contexts. It is your responsibility to ensure that you do not use the information we provide in the wrong context.

This report is based on readily available geological records, the recorded physical investigation, the strata observed in the works, together with the results of completed site and laboratory tests. Whilst skill and care has been taken to interpret these conditions likely between or below investigation points, the possibility of other characteristics not revealed cannot be discounted, for which no liability can be accepted. The impact of our assessment on other aspects of the development required evaluation by other involved parties.

The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist. It was not part of the scope of this report to comment on environment/contaminated land considerations.

The conclusions and recommendations relate to 1a Polygon Rd, London NW1 1QB. Trial hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sampler borehole implies the specific technique used to produce a trial hole.

The depth to roots and/or of desiccation may vary from that found during the investigation. The client is responsible for establishing the depth to roots and/or of desiccation on a plot-by-plot basis prior to the construction of foundations. Where trees are mentioned in the text this means existing trees, recently removed trees (approximately 15 years to full recovery on cohesive soils) and those planned as part of the site landscaping.

The conclusions and recommendations relate to the proposed development at 1a Polygon Rd, London NW1 1QB.

**Legislative Background**

National Planning Policy Framework and Technical Guidance-Flooding was published March 2012 and updated in 2020/2023. Planning is the current legislation that controls Flooding and associated Flood risk. It requires that consideration should be given to Flood Risk Assessment in the planning process. The guidance states that any flood risk assessment should:

- Identify land at risk from and the degree of risk of flooding from a river, watercourse, sea or other sources in the area;
- Consider the risk of flooding arising from the development in addition to the risk of flooding to the development;
- Take the impact of climate change into account;
- Consider both the potential adverse and beneficial effects of flood risk management infrastructure;
- Consider the vulnerability of those that could occupy and use the proposed development, taking account of the sequential and exception test and the vulnerability classification, including arrangements for safe access;
- Consider and quantify different types of flooding and identify flood risk reduction measures so that the assessments are fit for the purpose of the decisions being made;
- Consider the effects of a range of flooding events including extreme events on people, property, the natural and historic environment and river and costal processes;
- Include the assessment of the remaining risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular development or land use;
- Consider how the ability of water to soak into the ground may change with development, along with how the proposed layout of development may affect drainage systems;
- Be supported by appropriate data and information, including historical information on previous event.

This is the information that should be included in an FRA which the Environment Agency has requested. The Environment Agency is the regulatory body with regard to Flood Risk Assessments.

# APPENDIX B: Technical Glossary

# TECHNICAL GLOSSARY

The list of possible definitions within the report may be seen below. Please note that some definitions may not be relevant to this report.

**HYDROGEOLOGY:**

A **Principal Aquifer** is a layer of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

**Secondary (A) Aquifers** consist of deposits with 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.

**Secondary (B) Aquifers** consist of deposits with predominantly lower permeability layers with may stoke and yield limited amounts of groundwater due to localised features such as fissures, think permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

**Secondary Aquifers (Undifferentiated)** are 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 a minor aquifer and non-aquifer in different locations due to the variable characteristics of the rock type.

**Unproductive Strata** are rock layers with low permeability that have negligible significance for water supply or river base flow. These were formerly classified as non-aquifers.

**FLOOD ZONES:**

**Environment Agency Flood Zone 2**, defined as; land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.

**Environment Agency Flood Zone 3** shows the extent of a river flood with a 1 in 100 (1%0 or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year.

**Environment Agency Flood Zone 3 area that benefits from flood defences**, defined as; land and property in this flood zone would have a high probability of flooding without the local flood defences. These protect the area against a river flood with a 1% chance of happening each year, or a flood from the sea with a 0.5% chance of happening each year.

**GROUNDWATER SOURCE PROTECTION ZONES (SPZS):**

**Inner Zone (SPZ1):** This zone is 50 day travel time of pollutant to source with a 50 metres default minimum radius.

**Outer Zone (SPZ2):** This zone is 400 day travel time of pollutant to source. This has a 250 or 500 metres minimum radius around the source depending on the amount of water taken.

**Total Catchment (SPZ3):** This is the area around a supply source within which all the groundwater ends up at the abstraction point. This is the point from where the water is taken. This could extend some distance from the source point.

**Zone of Special Interest (SPZ4):** This zone is where local conditions require additional protection.

**IN-SITU STRENGTH GEOTECHNICAL TESTING:**

**Windowless Sample and/or Cable Percussion and/or Rotary Boreholes** provide samples of the ground for assessment but they do not give any engineering data. The standard penetration test (SPT) is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. The test uses a thick-walled sample tube, with an outside diameter of 50mm and an inside diameter of 35mm, and a length of around 650mm. This is driven into the ground at the bottom of a borehole by blows from a slide hammer with a weight of 63.5kg falling through a distance of 760mm. The sample tube is driven 150mm into the ground and then the number of blows needed for the tube to penetrate each 75mm up to a depth of 450mm is recorded. The sum of the number of blows is termed the "standard penetration resistance" or the "N-value".

**Dynamic Probing** involves the driving of a metal cone into the ground via a series of steel rods. These rods are driven from the surface by a hammer system that lifts and drops a 63.5kg (SHDP) hammer onto the top of the rods through a set height, thus ensuring a consistent energy input. The number of hammer blows that are required to drive the cone down by each 100mm increment are recorded. These blow counts then provide a comparative assessment from which correlations have been published, based on dynamic energy, which permits engineering parameters to be generated. (The Dynamic Probe 'Super Heavy' (SHDP) Tests were conducted in accordance with BS 1377; 1990; Part 9, Clause 3.2).

# APPENDIX C: GroundSure Datasheets


Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** 1056 Scale Town Plan

**Map date:** **1871-1873**

**Scale:** 1:1,056

**Printed at:** 1:1,056

N
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Surveyed 1870
Revised N/A
Edition 1873
Copyright N/A
Levelled N/A

Surveyed 1871
Revised N/A
Edition 1874
Copyright N/A
Levelled N/A

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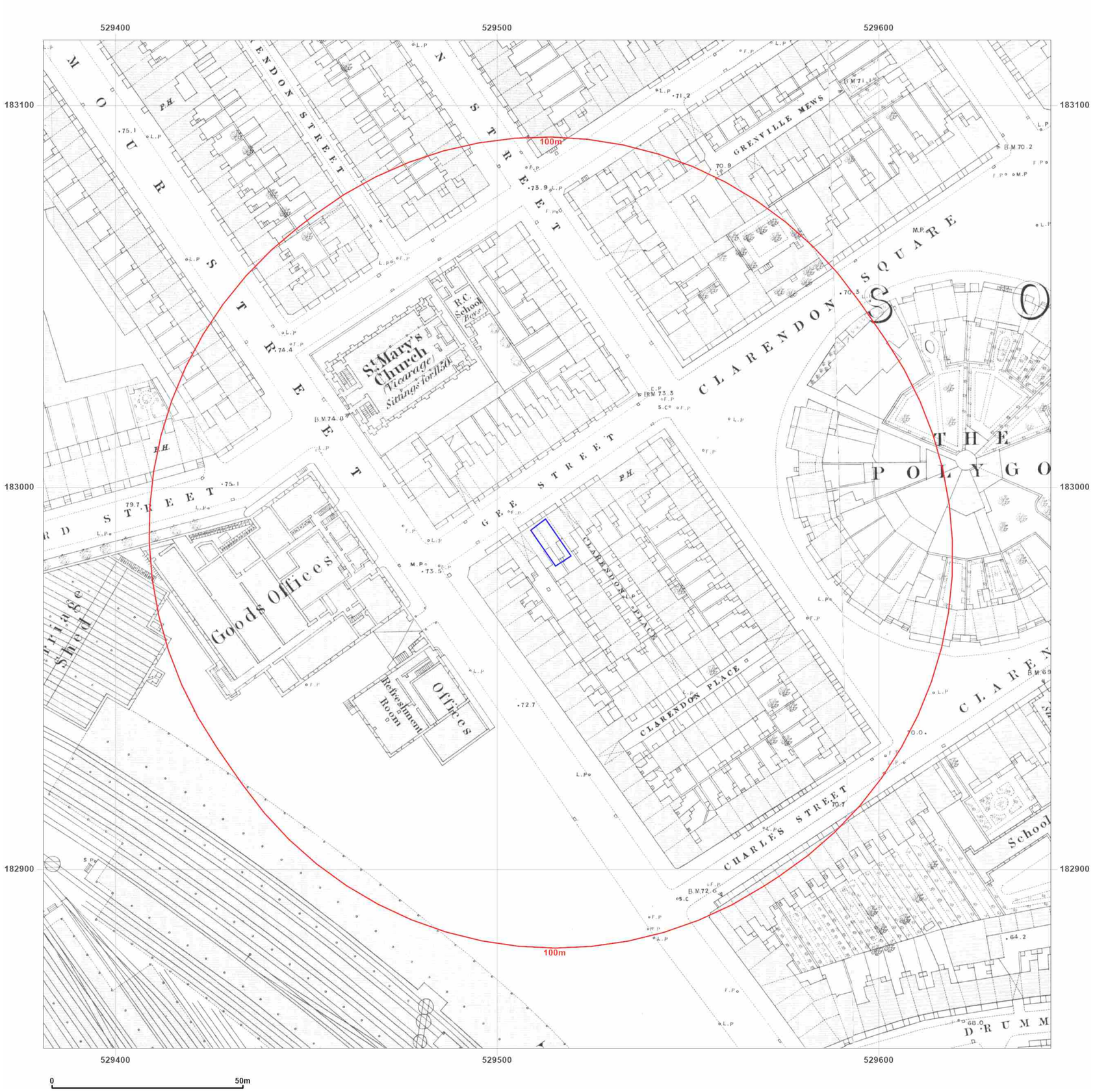


Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** 1056 Scale Town Plan

**Map date:** **1870-1874**

**Scale:** 1:1,056

**Printed at:** 1:1,056

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

Surveyed 1871
Revised N/A
Edition 1874
Copyright N/A
Levelled N/A

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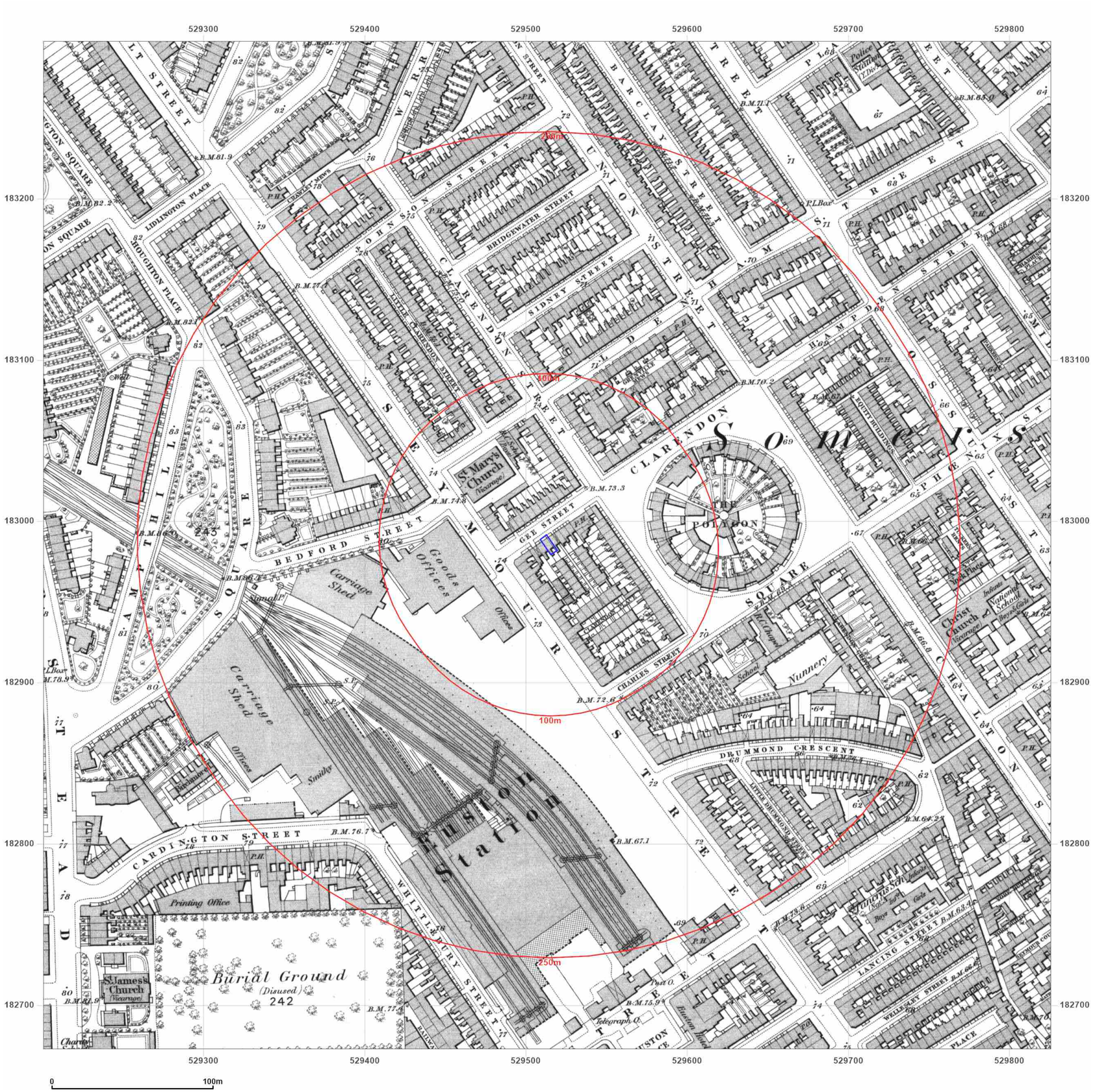


Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** County Series
**Map date:** **1876**
**Scale:** 1:2,500
**Printed at:** 1:2,500

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Surveyed 1870
Revised N/A
Edition 1876
Copyright N/A
Levelled N/A

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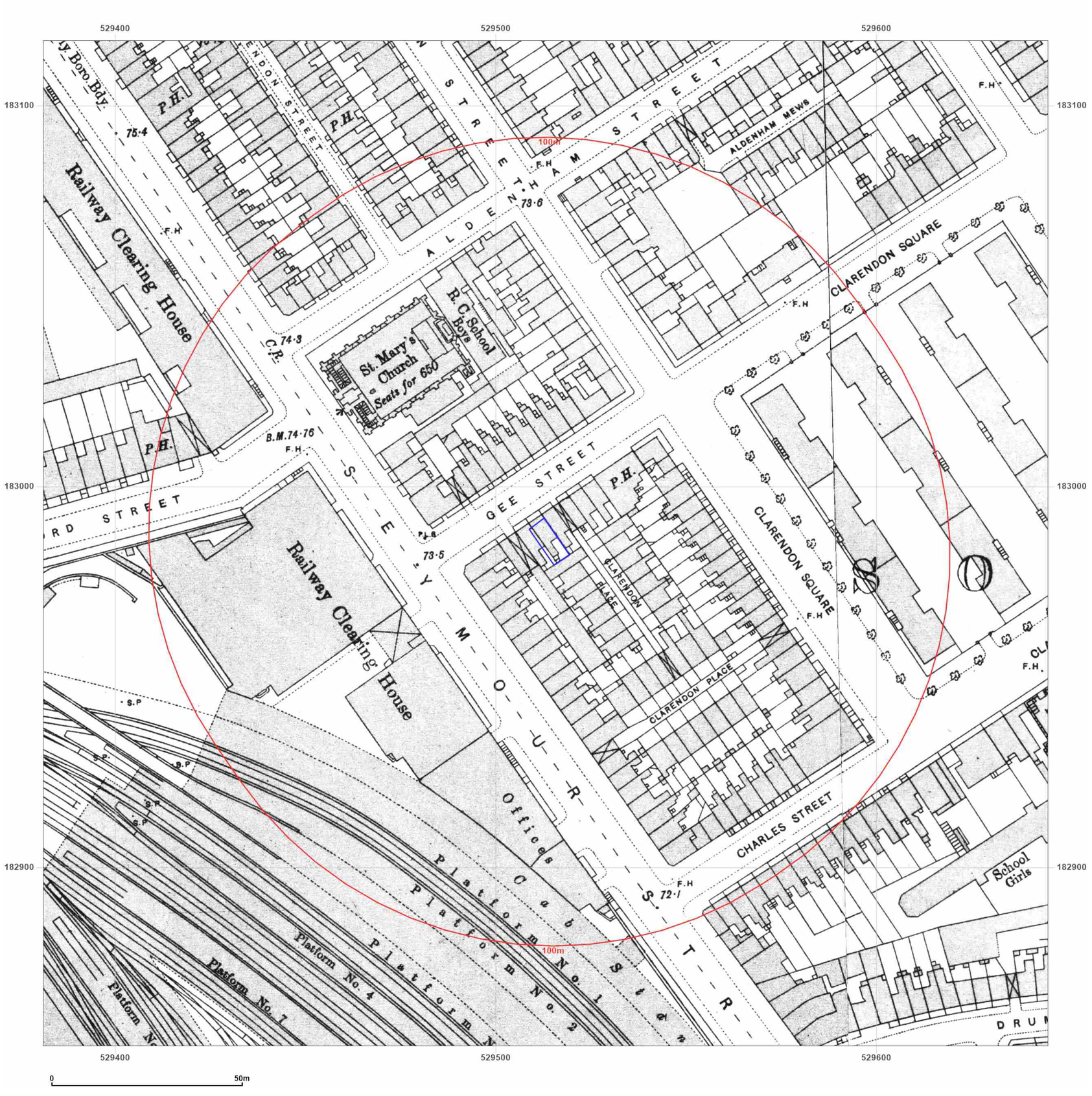


Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** 1056 Scale Town Plan

**Map date:** **1896**

**Scale:** 1:1,056

**Printed at:** 1:1,056

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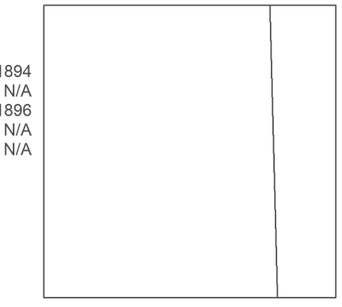
Surveyed 1894
Revised N/A
Edition 1896
Copyright N/A
Levelled N/A



Surveyed 1894
Revised N/A
Edition 1896
Copyright N/A
Levelled N/A

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Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** County Series

**Map date:** **1896**

**Scale:** 1:2,500

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

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Surveyed 1896
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

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Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** County Series

**Map date:** **1916**

**Scale:** 1:2,500

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

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

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# Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** National Grid

**Map date:** **1951-1952**

**Scale:** 1:1,250

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

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Surveyed 1952
Revised 1952
Edition N/A
Copyright N/A
Levelled 1932

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled 1932

Surveyed 1952
Revised 1952
Edition N/A
Copyright N/A
Levelled 1932

Surveyed 1952
Revised 1952
Edition N/A
Copyright N/A
Levelled 1932

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Production date: 18 August 2023

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Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

**Map Name:** National Grid

**Map date:** **1952-1953**

**Scale:** 1:1,250

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

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|---|---|
| Surveyed N/A<br>Revised N/A<br>Edition N/A<br>Copyright N/A<br>Levelled N/A | Surveyed 1951<br>Revised N/A<br>Edition 1953<br>Copyright N/A<br>Levelled 1932 |
| Surveyed N/A<br>Revised N/A<br>Edition N/A<br>Copyright N/A<br>Levelled N/A | Surveyed 1952<br>Revised 1952<br>Edition N/A<br>Copyright N/A<br>Levelled 1932 |

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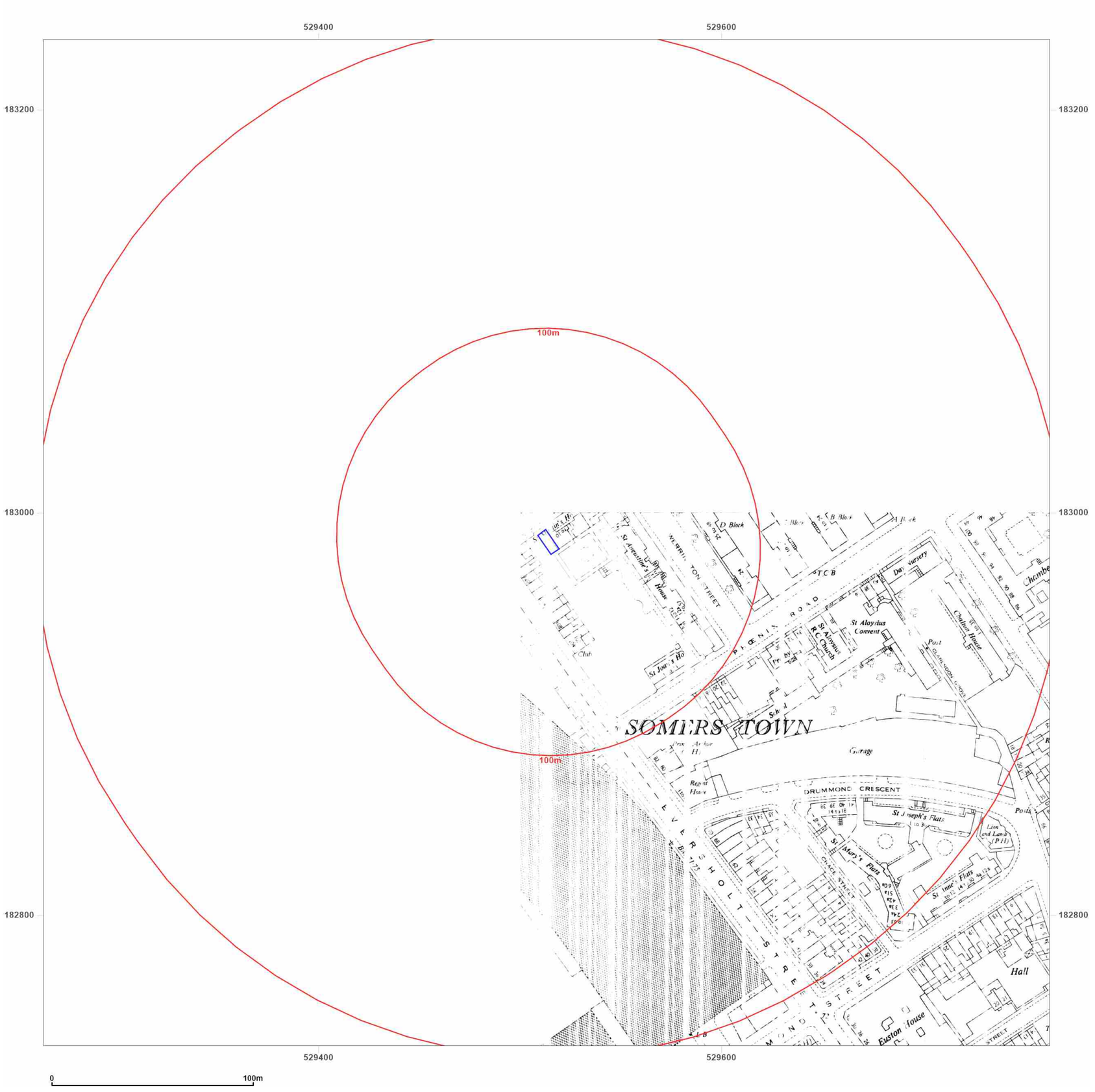


Groundsure INSIGHTS

**Site Details:**

FLAT 1, ST RICHARDS HOUSE,
EVERSHOLT STREET, LONDON,
NW1 1BS

**Client Ref:** GWPR5556
**Report Ref:** GS-EIG-6VW-7WF-642
**Grid Ref:** 529513, 182985

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

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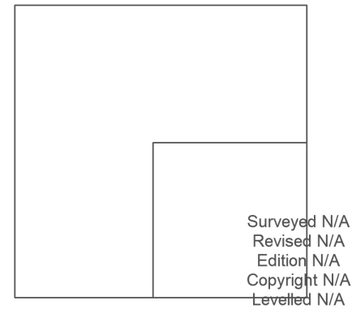


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