

STAGE 1 TIER 1 PRELIMINARY GEO-ENVIRONMENTAL RISK ASSESSMENT

PROPOSED REDEVELOPMENT:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, LONDON SM1 2AE



Client: **MACAR LIVING (CITY HOUSE) LIMITED**
City House, Sutton Park Road
Sutton, London SM1 2AE

Report ref: **10902/SG**

Date: **31st January 2024 (Rev2)**

STAGE 1 TIER 1 PRELIMINARY GEO-ENVIRONMENTAL RISK ASSESSMENT**PROPOSED REDEVELOPMENT:****City House, Sutton Park Road, Sutton, London SM1 2AE****DOCUMENT ISSUE STATUS:**

Issue	Date	Description	Author	Checked/approved
Rev 0	07/12/23	First issue	Miss S Grimes BSc(Hons), MSc, FGS Nick Belcher MSc, BSC, FGS	John Bartley BSc, MSc, CGeol, FGS
Rev 1	08/12/23	Second issue with Sutton Council response	Miss S Grimes BSc(Hons), MSc, FGS Nick Belcher MSc, BSC, FGS	John Bartley BSc, MSc, CGeol, FGS
Rev 2	31/01/24	Incorporating comments by Centro	Miss S Grimes BSc(Hons), MSc, FGS	John Bartley BSc, MSc, CGeol, FGS

This report has been undertaken within the constraints of the client's instruction/contract, together with those set out in the 'General information, Limitations and exceptions' section at the end of this report. Conclusions or recommendations made in this report are limited to those which can be reasonably based upon the research work carried out. Any comments which rely on third-party information which has been provided to us are made in good faith and on the assumption that such information is accurate. SCL have not carried out independent validation of any third-party information.

Soil Consultants Ltd (SCL) has prepared this Report for the Client in accordance with the Terms of Appointment under which our services were performed. With respect to third parties, no other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by us. This Report may not be relied upon by any other party without the prior and express written agreement of SCL.

TABLE OF CONTENTS

1.0	Introduction	1
2.0	Proposed redevelopment	1
3.0	Site description	1
4.0	Walk-over survey	4
5.0	Geology and groundwater.....	5
6.0	Summary of historical maps and database report.....	6
6.1	Review of historical maps	6
6.2	Database information	7
7.0	Local authority report and other information	11
8.0	Unexploded ordnance (UXO)	11
9.0	Preliminary Risk Assessment and Initial Conceptual Site Model.....	12
10.0	Geotechnical risk assessment.....	16
11.0	Recommendations for intrusive investigation	17

General Information, Limitations and Exceptions

Standard Terms of Appointment

APPENDIX A**Plans, drawings and photographs**

- 📍 Site Location Map
- 📍 Site Plan
- 📍 Site walkover photo plan
- 📍 Site photographs
- 📍 Proposed development plans and views

APPENDIX B

- 📍 GroundSure historical maps (Ref GS-WJX-YP7-GWU-Z11)
- 📍 GroundSure Enviro+Geo Insight Report (Ref GS-535-AHO-SWW-KVZ)

APPENDIX C

- 📍 Kingston and Sutton Shared Environmental Service, Regulatory Services - Council Contaminated Land Enquiry Report (Ref 23/11301/MISC, dated 7th December 2023)
- 📍 Zetica UXO – Unexploded Bomb Risk Map (Ref: SM1 2AE, Map Centre: 525764, 163989)
- 📍 BRIMSTONE UXO – Stage 1 Preliminary UXO Risk assessment (Ref: PRA-23-2319 Rev0, dated 28th November 2023)

1.0 INTRODUCTION

Following demolition of the existing City House building, the proposed redevelopment will comprise the construction of a new five and thirteen storey mixed development, including 70 residential units and approx. 200sqm of commercial space.

In connection with the proposed redevelopment, Soil Consultants Ltd (SCL) were commissioned by Macar Living (City House) Limited, to carry out a Stage 1 Tier 1 Preliminary Risk Assessment to include the following elements:

- ✚ A review of historical and current land-use and potential contaminated land risks
- ✚ Development of an initial Conceptual Site Model (CSM) identifying potential sources, pathways and receptors and environmental risks
- ✚ Summary of geotechnical risks
- ✚ Considerations for a Stage 1 Tier 2 intrusive investigation

This assessment is generally based upon current UK guidance, primarily the Environment Agency's "Land contamination: risk management" (2021).

2.0 PROPOSED REDEVELOPMENT

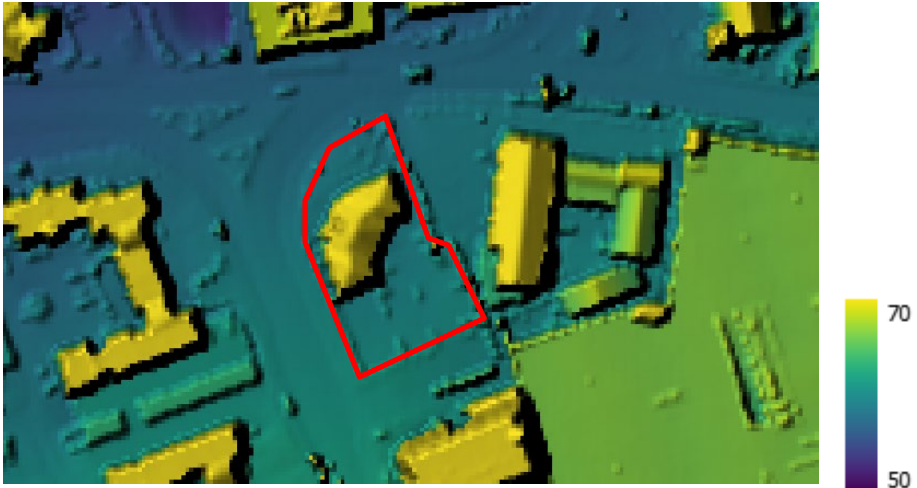
The proposed redevelopment at this site includes the following elements:

- ✚ Demolition of the existing buildings
- ✚ Construction of a new five to 13 storey split roof-level building

3.0 SITE DESCRIPTION

A summary description of the site and its general setting is as follows:

Element	Description
Site location and setting	<ul style="list-style-type: none"> ✚ Located in London Borough of Sutton ✚ Site is located approx. NGR 525770E 163990N ✚ Mixed residential and commercial/office area in the centre of Sutton
Site dimensions	✚ 60m (N-S) x 30m (E-W) – approximately 0.18ha

Element	Description
Site boundaries	<ul style="list-style-type: none"> ✦ A232 Cheam Road with Sutton Council offices beyond to the north (Photos 1 & 2) ✦ Holiday Inn hotel and offices etc to the north east (Photo 2) ✦ Residential flats to the west beyond the A232 Sutton Park Road (Photo 3) ✦ Access/loading bay and yard (suspected for Morrisons) (Photo 5) to the south and Morrisons supermarket to the south-east. Residential and commercial mixed use building beyond (Photo 4) with a partial basement (Photo 6) ✦ Sutton Baptist Church (Photo 7) and church car park on eastern boundary (Photo 8)
Site description	<ul style="list-style-type: none"> ✦ Existing 3-storey City House comprising offices with pitched roof (Photos 11 & 13) is positioned in the northern/central site area ✦ The southern half of the site comprises a brick paved car park with some landscaping (Photos 11 to 24) ✦ Small front garden, mainly comprising lawn with paved pedestrian paths (Photo 6) ✦ Air conditioning units within the north-western area (Photo 14) ✦ Vehicle entrance through loading bay/yard on the southern boundary with bin storage adjacent (Photos 9 & 10)
Topography and site levels	<ul style="list-style-type: none"> ✦ A topographical drawing was not supplied ✦ A LiDAR map showing ground level is as follows: <div data-bbox="491 1070 1412 1556" style="text-align: center;">  </div> <ul style="list-style-type: none"> ✦ This map indicates the following: <ul style="list-style-type: none"> ➢ General topography slopes to the north/north-west ➢ Overall fall in elevation of about 2m across the site (SE to NW) from +60.5mOD to +58.8mOD. Sutton Park Road shows similar fall ➢ Cheam Road to the north lies at about +57.5mOD in line with site

Element	Description
Existing vegetation within site and adjacent properties	<ul style="list-style-type: none"><li data-bbox="491 255 1410 360">✚ Mature and semi-mature trees in 'garden' portion of site along northern and eastern boundaries. These comprise suspected judas and black locust trees (Photos 19 & 22)<li data-bbox="491 371 1410 439">✚ Maple trees are located just outside site boundary within the pavements to the north, west and east (Photos 4 & 7)<li data-bbox="491 450 1410 517">✚ Sapling trees on site of suspected young eucalyptus/black locust (Photos 4, 16, 17 & 19)<li data-bbox="491 528 1410 595">✚ Immature trees and shrubs/bushes were observed as part of site landscaping within the parking area at the southern area of site (Photos 7, 11 & 12, 24)

The current site features are shown on the Site Plan and Site Photographs which are included in Appendix A.

4.0 WALK-OVER SURVEY

A site walk-over survey was undertaken on 14th November 2023. A description of the general features of the site and the topography is provided in Section 2.0 above. From inspection of visible and accessible areas, a summary of specific features relevant to the land quality assessment is as follows:

Feature	Commentary
Electricity substations and transformers	None observed on site. Groundsure data indicates that the nearest substation dated 1989 was/is located 17m SE (not found)
Fuel storage tanks	None located on site
Fuel interceptors	None observed on site
General chemical storage/waste	No chemical storage observed on site
Invasive species	None observed
Evidence of gas protection	None observed on site
Surface water contamination	Heavy rain during the time of the walkover survey. Surface water appeared to be clean with no contamination observed No water courses/ponds etc observed on or adjacent to site
Waste storage	Bin storage in south-east corner of site (Photo 10) Site was observed as neat and tidy
ACMs	None observed
Anecdotal information	N/A
Other	Adjacent church did not contain a graveyard

The current site features are shown on the Site Plan and photographs which are included in Appendix A.

5.0 GEOLOGY AND GROUNDWATER

Published BGS geological maps indicate that the site is underlain by undifferentiated Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation. No superficial soils or made ground are mapped on site although some made/worked ground is mapped in the general area. Based on our knowledge of the area, previous ground investigations in the vicinity and local historical BGS borehole records, the anticipated ground and groundwater conditions are summarised in the table below.

Stratum	Depth to base	General description
Made ground	<1m in nearby boreholes	➤ Unknown
Head	<1m in nearby boreholes	➤ Brown sandy clay with occasional flint/chalk gravel
Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation	Recorded to 24m depth in a historical borehole 108m east	➤ White chalk with frequent/occasional flint nodules
Groundwater: expected within the chalk (>10m depth based on nearby boreholes but no site specific information is available). This can of course vary seasonally		

6.0 SUMMARY OF HISTORICAL MAPS AND DATABASE REPORT

The following reports have been commissioned for this assessment:

- ✚ Groundsure report Ref GS-WJX-YP7-GWU-Z11, 13/11/23: historical maps
- ✚ Groundsure Ref: GS-535-AHO-SWW-KVZ, 13/11/23: database report which includes information of local activities encompassing a range of subjects related to land use, pollution, and geological/hydrological conditions

These reports are included as Appendix B and should be read and understood fully in conjunction with this summary.

6.1 Review of historical maps

The following table details the development of the site and surrounding area including notable points of interest and potential significance in line with current guidance.

Historical development of site and surrounding area		
Map date	The site	Significant development / features in surrounding area
✚ 1840-1867	✚ The site is located in within a field in Sutton, bounded to the north and west by roads and on the east by a fence	<ul style="list-style-type: none"> ✚ Site is located within a mixed agricultural and residential area ✚ A railway line (London, Brighton and South) runs approximately 200m S of site; railway station 250m SE ✚ Two old chalk pits are marked within 200m WNW and NE ✚ Well located about 130m ESE ✚ St Nicholas Church and associated graveyard are located about 110m N of site ✚ Flour Mill 250m NE
✚ 1896-1913	✚ Site is now occupied by two detached (likely) residential properties and associated gardens	<ul style="list-style-type: none"> ✚ Residential development in the surrounding area - replacing agricultural land use; public buildings from approx. 150m to the E/NE ✚ Post office 120m SSE ✚ Fire station about 230m NE

Historical development of site and surrounding area		
Map date	The site	Significant development / features in surrounding area
✚ 1934-1938	✚ No significant changes apparent	<ul style="list-style-type: none"> ✚ Residential property immediately east has been demolished to make way for a Baptist Church ✚ A further church has been constructed within 30m N, on the other side of the road ✚ Telephone exchange next to the post office to SSE
✚ 1955-1971	✚ No significant changes apparent	<ul style="list-style-type: none"> ✚ Surgery immediately S ✚ Garage and warehouse marked 20m to 50m ESE and SSE of site ✚ Several car parks marked in previously occupied plots 30m to 100m NW/N of site – possibly due to bomb damage in WW2 (ruins 110m E) ✚ Large garage some 200m NNE ✚ Sheet metal works 120m ESE ✚ Several engineering works marked 150m SSE from site ✚ Electricity substation and Builder's Yard some 200m to 220m SSE
✚ c.1972-1989	✚ On site properties demolished, now marked as car park	<ul style="list-style-type: none"> ✚ 10-120m ESE of site marked as Hall/warehouse though further external research shows it was developed into a superstore in the late 1980s (first shown on maps dated c.1989) ✚ Library and civic centre marked on site of car park 30m N of site from c.1978 ✚ Electricity substation marked about 20m SSE of site (1989, not marked on 1992 map though building remains)
✚ 1992-Present	✚ Current building first marked on 2001 map	✚ Hotel and multistorey car park marked about 100-150m NW of site

6.2 Database information

The database report includes information of local activities encompassing a range of subjects related to land use, pollution, and geological/hydrological conditions. Our assessment of contaminative uses and other environmental issues relevant to the site and its surroundings is provided below. The full database report (Groundsure Ref: GS-535-AHO-SWW-KVZ, 13/11/23) is included as Appendix B and this should be

read and understood fully in conjunction with this summary. The following summaries detail the key data from the Groundsure report and associated maps.

Past land use

- ✚ Historical industrial land uses (within 250m): nearest is a graveyard (105m N), cuttings and railway sidings 150m-250m S/SE, police station 163m NE and 228m E, flour mill 166m NE, unspecified pits 177m W and 193m NE, railway station and coal depot 246m SE
- ✚ Historical tanks: no historical tanks within 250m
- ✚ Historical energy features (within 250m): electricity substations 17m SE, 201m E, 208m SE, 210m E, 227m E, 243m NW, 244m W
- ✚ Historical garages (within 250m): nearest is 31m E (1956-1967), 139m N (1965), 164m NE (1972) and 192m N (1955-1965)

Waste and landfill

- ✚ Active and historical landfills: none within 500m
- ✚ Waste exemptions (within 250m): 160m-185m SE; 3-5 Grove Road, treating waste exemption (sorting and de-naturing of controlled drugs for disposal)

Current industrial land use

- ✚ Recent industrial land uses (selected, within 250m): E Green International (food and beverage machinery) 119m NE, telephone exchange 15m SE, electricity substation 166m NW (nearest), unspecified works 186m SE
- ✚ Current or recent petrol stations: nearest 324m W (Shell) - open
- ✚ Licensed pollutant release (within 250m): dry cleaning 74m SE, 76m E and 149m E (no enforcements notified)
- ✚

Hydrogeology

- ✚ Superficial aquifer: none on site; nearest is 'Secondary Undifferentiated' 298m SW
- ✚ Bedrock aquifer: on site 'Principal' (chalk geology)
- ✚ Groundwater vulnerability: High vulnerability on site (productive bedrock aquifer). Leaching class 'Low'
- ✚ Soluble rock risk: Very significant soluble rocks are considered to be of maximum soluble risk with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow. Identified in approximately 9% of the surrounding 1km grid square area

- ✚ Groundwater/potable abstractions: nearest is 181m NW (historical) and 220m NW (active pumping station)
- ✚ Source Protection Zones: on site is Type 1 'Inner catchment' zone

Hydrology

- ✚ Water Framework Directive (WFD) surface water body catchment: on site is 'River Catchment', part of the Beverley Brook (Motspur Park to Thames) and Pyl Brook at West Bar water body catchment. Land area part of London Management Catchment
- ✚ WFD surface water features/bodies: none within 1200m
- ✚ WFD groundwater bodies: on site – Epsom North Down Chalk; overall rating 'poor'

River and coastal flooding

- ✚ Risks of flooding (RoFRaS), historical flooding and flood defences: none identified within 250m
- ✚ No Zone 2 or 3 floodplains or flood defences within 50m

Surface water and groundwater flooding

- ✚ Surface water flooding: the highest risk on site (and within 50m) is 'negligible'
- ✚ Groundwater flooding: the highest risk on site (and within 50m) is 'negligible'

Environmental designations

- ✚ SSSI: none recorded within 1000m
- ✚ Local Nature Reserve: nearest record is 811m SE (Devonshire Avenue Nature Area)
- ✚ Green Belt: nearest is 1913m S London
- ✚ Nitrate Vulnerable Zones: site lies within Beverley Brook (Motspur Park to Thames) and Pyl Brook at West Barnes NVZ. Type: surface water. Status: existing
- ✚ SSSI Impact Zones: site is in a SSSI Impact Zone with some types of development requiring consultation
- ✚ SSSI Impact Units: Banstead Down, 1934m S

Visual/Cultural, Agricultural and Habitat designations

- ✚ Listed buildings: nearest is Sutton Baptist Church 28m E (adjacent to site)
- ✚ Conservation areas: on site, Sutton Town Centre High Street Crossroads, Sutton
- ✚ Agricultural land classification: on site - Urban
- ✚ Habitat networks: none recorded within 250m

Geology

- ✚ Superficial geology: none on site
- ✚ Bedrock geology: undifferentiated Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation. Very high permeability through fractures
- ✚ BGS boreholes: 14no historical records identified within 250m
- ✚ Natural ground subsidence: very low to negligible risks for all categories where identified

Mining, ground workings and natural cavities:

- ✚ Surface ground workings: graveyard 105m N (1867), cuttings from 150m S (from 1867), unspecified pit 177m W and 193m NE (1867-95)
- ✚ None coal mining: on site chalk mining (Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered).
- ✚ Researched mining: on site - stone
- ✚ Natural cavities: 3 x solution pipes identified 196m N
- ✚ National karst database: nearest entry 196m N – reliability: probable

Radon

- ✚ Between 1% and 3% of properties affected, Radon protection measures not required

Soil chemistry

- ✚ BGS estimated urban soil chemistry, extract as follows:

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	10	1.8	152	104	0.8	46	27	18	13
On site	11	1.9	147	101	0.7	49	28	19	11
2m SE	12	2.1	134	92	0.7	49	25	19	10
17m NE	10	1.8	145	100	0.7	47	26	18	12

Railway infrastructure and projects

- ✚ Historical railway and tunnel features: railway sidings, railway from 155m S/SE
- ✚ Railways: Sutton Loop Line (170m S), Sutton and Mole Valley Line (178m SE)

7.0 LOCAL AUTHORITY REPORT AND OTHER INFORMATION

The Kingston and Sutton Shared Environment Service, part of Sutton Council, was approached for any information that they may hold with respect to land contamination on, or near site, their report is within Appendix C. A summary of the findings of the assessment is as follows:

- ✚ No records of land having any potentially contaminating historical use
- ✚ Low site risk rating
- ✚ Two planning polygons/previous applications within the proximity of site
- ✚ No known historical landfill sites
- ✚ Historic maps held, dated back to 1867
- ✚ One record within 250m held under Pollution Prevention and Control Act 1999

8.0 UNEXPLODED ORDNANCE (UXO)

A preliminary UXO risk assessment was commissioned from Brimstone UXO Ltd (Ref: PRA-23-2319, dated 28th November 2023). A summary of the findings of the assessment is as follows:

- ✚ The risk of encountering UXO on site is “not considered to be elevated above the ‘background level’ for the region”
- ✚ UXO Safety Awareness Briefings to all personnel conducting future ground works considered prudent

9.0 PRELIMINARY RISK ASSESSMENT AND INITIAL CONCEPTUAL SITE MODEL

The information in the preceding sections has been used to undertake the Preliminary Risk Assessment and to compile the Initial Site Conceptual Model below in accordance with current LCRM (EA2021) guidance. The assessment follows a risk-based approach, with the potential risks determined qualitatively using the 'source-pathway-receptor' linkage concept. Potential harm may only exist where a plausible, rational and justified linkage is present between all factors of the linkage.

The following assessment pro-forma methodology has been formulated from existing guidance using a standard modified consequence and probability matrix:

		Consequences			
		Severe (4)	Medium (3)	Mild (2)	Minor (1)
Probability	High likelihood (4)	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely (3)	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood (2)	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely (1)	Moderate/low risk	Low risk	Very low risk	Very low risk

Definitions of Consequence:

- ✚ Severe (4): Significant damage or harm to buildings/property/services, short-term (possibly immediate) acute direct risks to controlled waters, human and ecological receptors via pollution and direct exposure.
- ✚ Medium (3): Direct pollution of controlled waters and possible chronic or acute risks of significant harm to human health, buildings/services and/or ecological receptors via exposure.
- ✚ Mild (2): Indirect pollution of controlled waters and possible chronic risks to human health, building/service and/or ecological receptors over the longer term causing potential harm.
- ✚ Minor (1): Negligible potential for damage or harm to be significant to identified receptors but may still be present which may result in actions being required by appropriate regulators.

Definitions of Probability:

- ✚ High likelihood (4): There is, or it is inevitable that there will be, an identified and/or confirmed potential pollution linkage or incident capable of causing harm in the immediate to medium term.
- ✚ Likely (3): There is, or it is inevitable that there will be, an identified and/or confirmed potential pollution linkage or incident capable of causing harm in the medium or longer term.
- ✚ Low likelihood (2): There is, or could be, an identified and/or confirmed potential pollution linkage or incident potentially capable of causing harm over time, but it is not inevitable.

- ✚ Unlikely (1): There is, or could be, an identified and/or confirmed potential pollution linkage or incident potentially capable of causing harm over the longer term, but it is improbable that it will be significant.

Definitions of the final linkage risks are summarised as follows:

- ✚ **Very high:** high probability that severe harm could occur, or there is evidence that it is currently occurring. If realised, the risk could result in substantial liability. Urgent investigation/remediation
- ✚ **High:** harm is likely to occur, realisation is likely to present substantial liability. Urgent investigation required. Remedial works may be required in short-term, will be in long-term
- ✚ **Moderate:** possible that harm could arise, but unlikely to be severe. Investigation normally required to clarify risk and liability. Remedial works may be necessary in long-term
- ✚ **Low:** possible that harm could occur, but this would at worst be mild
- ✚ **Very low:** low possibility of harm, unlikely to be severe

The following initial assessment has been carried out by identifying and evaluating the potential sources of contamination, the potential receptors and the plausible pathways for contamination migration. These have been determined from the available data using current guidance at the time of writing and will be subject to re-evaluation if or when additional data becomes available.

Potential sources of contamination

A summary of potential sources identified by our review of the above information is as follows:

- ✚ **Electricity substation:** historical substation (1989 on maps) located approximately 17m south-east of site
- ✚ **Historical industrial usage:** historical garage about 50m east and a warehouse about 20m south-east of site (both areas redeveloped for the supermarket construction in late 1980s). Further historical industrial use is mostly noted to the south (>120m distance) including unspecified works, railway land, telephone exchange, builder's yard etc.
- ✚ **Graveyard:** St. Nicholas Church's graveyard 105m north. The Sutton Baptist Church immediately east of site is not noted to have a graveyard, nor was any evidence seen during the site walkover.

It should be noted that any developed, non-greenfield land is likely to contain made ground. This will probably be of uncertain or unknown origin and may contain contaminants that have not been specifically identified.

The assessed risks from these potential sources are summarised in the Initial Conceptual Site Model below.

Potential receptors

In the context of the proposed development, the following potential receptors have been identified:

- ✚ Human health: inhabitants/users of building, construction workers, adjacent site users
- ✚ Controlled waters: Principal chalk aquifer and Source Protection Zone Type 1 (inner catchment) beneath site. Nearby water abstractions are present. The site is assessed as being of **high environmental sensitivity**
- ✚ Building fabric and services: buried foundations, basement wall, potable water pipes

Plausible pathways

- ✚ Ingestion of soil, dust or water
- ✚ Inhalation of dust, gas or vapours
- ✚ Vertical and lateral migration of contamination
- ✚ Migration of ground gas/vapour through permeable soils or open pathways

The Initial Conceptual Site Model and an estimate of the risk associated with each potential linkage is shown in the following table:

Source	Pathway	Receptor	Assessed risk and commentary/justification
On-site: contaminated soil and groundwater	Ingestion, contact, inhalation	End user, construction workers and infrastructure	Probability: 1 Consequence: 3 Potential Contaminant Linkage risk: Low No historical current sources identified with the site initially developed for residential use before construction of the current office building. Pre-2000 buildings and potential made ground giving potential asbestos risk
	Leaching from contaminated soils and migration in groundwater	Aquifer and surface water	Probability: 1 Consequence: 3 Potential Contaminant Linkage risk: Low The site is in a high environmental sensitivity setting, however, no significant potential on-site sources have been identified
Off-site: contaminated soil	Lateral migration of contaminants to site in groundwater	End user	Probability: 2 Consequence: 3 Potential Contaminant Linkage risk: Low/Moderate The main potential sources are the historical electricity substation adjacent to the site and various historical industrial land use identified mainly to the south/south-east (vast majority of areas have been redeveloped since); these have the potential to cause contamination of the groundwater with migration beneath the site
On-site and off- site: ground gas and vapours	Lateral and vertical migration of gas/vapour	End-user and buildings	Probability: 1 Consequence: 2 Potential Contaminant Linkage risk: Low There could be a small risk of ground gas/vapours associated with the historical graveyard to the north and industrial land use to the south/south-east. Radon protection measures not required.

The overall risk rating for the site is assessed as being **Low**.

10.0 GEOTECHNICAL RISK ASSESSMENT

The review of the site history has revealed a number of factors which will influence the design of structural foundations. In view of the expected soil sequence of limited made ground/head overlying chalk, shown extending to at least 24m depth in nearby BGS borehole records, at this stage it would be prudent to anticipate the use of piled foundations for the main construction, or a basement raft. For these ground conditions we would anticipate CFA piles to provide the optimum pile type. Due consideration will need to be given to potential risk items such as dissolution features within the chalk and/or historical ground workings, with advice sought if anomalous ground conditions are uncovered during works.

The potential presence of old buried foundations and services will constitute significant obstructions to piling and foundation works generally. Made ground may contain rubble or boulders depending on its source.

Groundwater levels should be ascertained to ensure that the correct form of construction is employed for the basement/lower ground floor.

If ground gas/vapour is found to affect the site then the floor slabs would have to incorporate appropriate gas protection measures, including designing the ground floor slabs to be fully suspended, supported by the piled foundations. They may also include gas/vapour membranes as a minimum with passive or active venting of below-slab voids depending on gas levels.

Of course, all foundations and services will need to be appropriately designed and approved by the regulators, particularly if any concentrations of contaminants are found which may affect sensitive receptors, such as the aquifer within the chalk.

11.0 RECOMMENDATIONS FOR INTRUSIVE INVESTIGATION

The Initial Conceptual Site Model identified potential pollution linkages resulting in the overall assessed risk rating of low. The following programme of intrusive investigation is recommended:

- ✚ Suitable intrusive investigation to confirm the ground sequence, allow soil/water sampling and the installation of monitoring pipes
- ✚ Potential sources to be targeted which have been identified by the PRA include the electricity substation to the south-east and historical industrial land use to the south/south-east, as well as potential made ground on site
- ✚ Soil and groundwater samples should be recovered where relevant and be analysed for a range of general contaminants to include heavy metals/semi metals, petroleum hydrocarbons, PCBs, asbestos screening and quantification
- ✚ A programme of groundwater and gas monitoring

The Initial Conceptual Site Model should then be revised to include complete pollution linkages and outline mitigation/remedial measures should be identified, together with any requirements for additional investigation.



GENERAL INFORMATION, LIMITATIONS AND EXCEPTIONS

Unless otherwise stated, our Report should be construed as being a Ground Investigation Report (GIR) as defined in BS EN1997-2. Our Report is not intended to be and should not be viewed or treated as a Geotechnical Design Report (GDR) as defined in EN1997-2. Any 'design' recommendations which are provided are for guidance only and are intended to allow the designer to assess the results and implications of our investigation/testing and to permit preliminary design of relevant elements of the proposed scheme.

The methods of investigation used have been chosen taking into account the constraints of the site including but not limited to access and space limitations. Where it has not been possible to reasonably use an EC7 compliant investigation technique we have adopted a practical technique to obtain indicative soil parameters and any interpretation is based upon our engineering experience and relevant published information.

The Report is issued on the condition that Soil Consultants Ltd will under no circumstances be liable for any loss arising directly or indirectly from ground conditions between the exploratory points which differ from those identified during our investigation. In addition, Soil Consultants Ltd will not be liable for any loss arising directly or indirectly from any opinion given on the possible configuration of strata between the exploratory points, below the maximum depth of the investigation or where site conditions have changed since the exploratory work; such opinions, where given, are for guidance only and no liability can be accepted as to their accuracy. The results of any measurements taken may vary spatially or with time and further confirmatory measurements should be made after any significant delay in using this Report.

Comments made relating to ground-water or ground-gas are based upon observations made during our investigation unless otherwise stated. Ground-water and ground-gas conditions may vary with time from those reported due to factors such as seasonal effects, atmospheric effects and and/or tidal conditions. We recommend that if monitoring installations have been included as part of our investigation, continued monitoring should be carried out to maximise the information gained.

Specific geotechnical features/hazards such as (but not limited to) areas of root-related desiccation and dissolution features in chalk/soluble rock can exist in discrete localised areas - there can be no certainty that any or all of such features/hazards have been located, sampled or identified. Where a risk is identified the designer should provide appropriate contingencies to mitigate the risk through additional exploratory work and/or an engineered solution.

Where a specific risk of ground dissolution features has been identified in our Report (anything above a 'low' risk rating), reference should be made to the local building control to establish whether there are any specific local requirements for foundation design and appropriate allowances should be incorporated into the design. If such a risk assessment was not within the scope of our investigation and where it is deemed that the ground sequence may give rise to such a risk (for example near-surface chalk strata) it is recommended that an appropriate assessment should be undertaken prior to design of foundations.

Where spread foundations are used, we recommend that all excavations are inspected and approved by suitably experienced personnel; appropriate inspection records should be kept. This should also apply to any structures which are in direct contact with the soil where the soil could have a detrimental effect on performance or integrity of the structure.

Ground contamination often exists in small discrete areas - there can be no certainty that any or all such areas have been located, sampled or identified.

The findings and opinions conveyed in this Report may be based on information from a variety of sources such as previous desk studies, investigations or chemical analyses. Soil Consultants Limited cannot and does not provide any guarantee as to the authenticity, accuracy or reliability of such information from third parties; such information has not been independently verified unless stated in our Report. No liability will be accepted for changes to the ground and groundwater conditions which occur post investigation.

Our Report is written in the context of an agreed scope of work between Soil Consultants Ltd and the Client and should not be used in any different context. In light of additional information becoming available, improved practices and changes in legislation, amendment or re-interpretation of the assessment or the Report in part or in whole may be necessary after its original publication.

Unless otherwise stated our investigation does not include an arboricultural survey, asbestos survey, ecological survey or flood risk assessment and these should be deemed to be outside the scope of our investigation.

We will identify tree and plant species if possible, but a suitably qualified arboriculturalist/botanist should be consulted to provide definitive identification

STANDARD TERMS OF APPOINTMENT OF SOIL CONSULTANTS LTD FOR GEOTECHNICAL SERVICES






- 1 Unless previously withdrawn, our offer remains valid for a period of sixty days from date of offer. If an instruction is given after the sixty days we reserve the right to reasonably adjust any cost associated with the project to reflect any variance on the original offer. In placing an instruction to proceed with exploratory work, whether directly from the Client or Client's representative, the Client is deemed to have accepted our Terms of Appointment.
- 2 Our offer is on the basis that free, unhindered access and working conditions are available and that the investigation can be completed in one visit, if applicable. Delays beyond our control will incur additional charges. If additional works outside our offer are required to facilitate the investigation these will be advised and any costs will be passed on to the Client.
- 3 In our quotation we will provide an estimate of any mobilisation period following an instruction to proceed. This estimate will be accurate at the time of quotation, but it should be noted that the mobilisation period may vary at a later date due to factors such as sub-contractor availability and workload.
- 4 In commissioning this work, the Client has a responsibility for the health, safety and welfare of operatives invited to undertake work on their site. The Client shall indemnify us in respect of any failure to fulfil their obligations in connection with all relevant and current Health and Safety Regulations.
- 5 The methods of investigation used have been chosen taking into account the constraints of the site including but not limited to access, space and budgetary limitations. Where it has not been possible to reasonably use an EC7 compliant investigation technique, or where a non-compliant technique has been specified, we will adopt practical and appropriate techniques to obtain indicative soil parameters.
- 6 Unless otherwise stated, our Report should be construed as being a Ground Investigation Report (GIR) as defined in BS EN1997-2. Our Report is not intended to be and should not be viewed or treated as a Geotechnical Design Report (GDR) as defined in BS EN1997-2. Any interpretation which is provided is for guidance only and must not be regarded as design or design recommendation.
- 7 Where excavation is required as part of the exploratory work, the Client shall provide drawings or plans showing accurate and complete locations of all underground services and structures. In performing our service, we shall take reasonable precautions to avoid damage to underground services or structures. We will not be responsible for any damage caused to underground services or structures and will not be liable for any claims for damage, expenses arising or losses unless the location of all underground services or structures are accurately shown on drawings and those plans have been provided to us in good time prior to commencement of the exploratory work. Risk to the Client can be further reduced by undertaking a scan of the site using a specialist underground scanning service which would be intended to identify traceable services at shallow depth.
- 8 With some sites, especially those in certain areas of London and other large towns and cities, there may be a risk of unexploded ordnance (UXO) being present. Unless otherwise stated our offer is on the basis that the Client or their representative provides a preliminary UXO risk assessment for the site. It should be noted that if the site is deemed to be in an area of risk then further measures will be required. These would normally comprise either a more detailed risk assessment and/or specialist site attendance by an EOD engineer. These measures can be commissioned either by the Client or Soil Consultants Ltd. If the Client requires, we would be pleased to obtain a preliminary risk assessment at cost+10%.
- 9 The Client will supply a site plan (to a rational scale), an indication of the scope and type of the proposed development and an indication of any relevant structural loading information.
- 10 Should the Client terminate the contract after instruction, we reserve the right to recover costs associated to work carried out between the time of instruction and the point of termination. Cancellation fees, and material costs shall be charged at cost plus 20% (+VAT). Engineer/technician time shall be charged at £95+VAT per hour and principal consultant/director time shall be charged at £125+VAT per hour.

- 11 The Report is issued on the condition that Soil Consultants Ltd will under no circumstances be liable for any loss arising directly or indirectly from ground conditions between the exploratory points which differ from those identified during the investigation. In addition Soil Consultants Ltd will not be liable for any loss arising directly or indirectly from any opinion given on the possible configuration of strata both between the exploratory points and/or below the maximum depth of the investigation; such opinions, where given, are for guidance only and no liability can be accepted as to their accuracy. The results of any measurements taken may vary spatially or with time and further confirmatory measurements should be made after any significant delay in using this Report.
- 12 If and when instructed, an agreed number of contamination tests will be carried out to give an outline assessment of potential contaminants. In some circumstances it may be necessary to recommend further monitoring, contamination testing and assessment and the scope of this work would be agreed with the Client. Notwithstanding this additional scope, local regulatory authorities may have specific requirements which need to be addressed. Unless otherwise agreed or stated our reporting will constitute neither a Quantitative Risk Assessment nor a Remediation Statement or Strategy.
- 13 Our reports are counter-checked by one of our suitably qualified and experienced engineers/geologists.
- 14 Notwithstanding anything to the contrary contained in these terms, our liability under or in connection with these terms whether in contract or in tort, in negligence, for breach of statutory duty or otherwise (other than in respect of personal injury or death) shall not exceed the sum equivalent to ten times our contract fee or £100,000 whichever is less in the aggregate for geotechnical and environmental matters unless otherwise agreed.
- 15 Without prejudice to any other exclusion or limitation of liability, damages, loss, expense or costs our liability for any claim or claims under this agreement be further limited to such sum as it would be just and equitable for us to pay having regard to the extent of our responsibility for the loss or damage giving rise to such claim or claims ("the loss and damage") and on the assumptions that:
- (a) All other consultants, contractors, sub-contractors, project managers or advisers engaged in connection with the Project have provided contractual undertakings to the Client on terms no less onerous than those set out in the original contracts in respect of the carrying out of their obligations in connection with the Project; and
 - (b) There are no exclusions of or limitations of liability nor joint insurance or co-insurance provisions between the Client and any other party referred to in this clause and any such other party who is responsible to any extent for the loss and damage is contractually liable to the Client for the loss and damage; and
 - (c) All such other consultants, contractors, sub-contractors, project managers or advisers have paid to the Client such proportion of the loss or damage which it would be just and equitable for them to pay having regard to the extent of their responsibility for the loss and damage.
- 16 Further and notwithstanding anything to the contrary contained in this agreement and without prejudice to any provision in this agreement whereby liability is excluded or limited to a lesser amount, our liability under or in connection with this agreement whether in contract or in tort, in negligence, for breach of statutory duty or otherwise for any claim shall not exceed the amount, if any, recoverable by us by way of indemnity against the claim in question under professional indemnity insurance taken out by us and in force at the time that the claims or (if earlier) circumstances that may give rise to the claim is or are reported to the insurers in question. The limitation shall not apply if no such amount is recoverable due to us having been in breach of our obligations or the terms of any insurance maintained in accordance therewith or having failed to report any such claim or circumstances to the Insurers in question timeously.

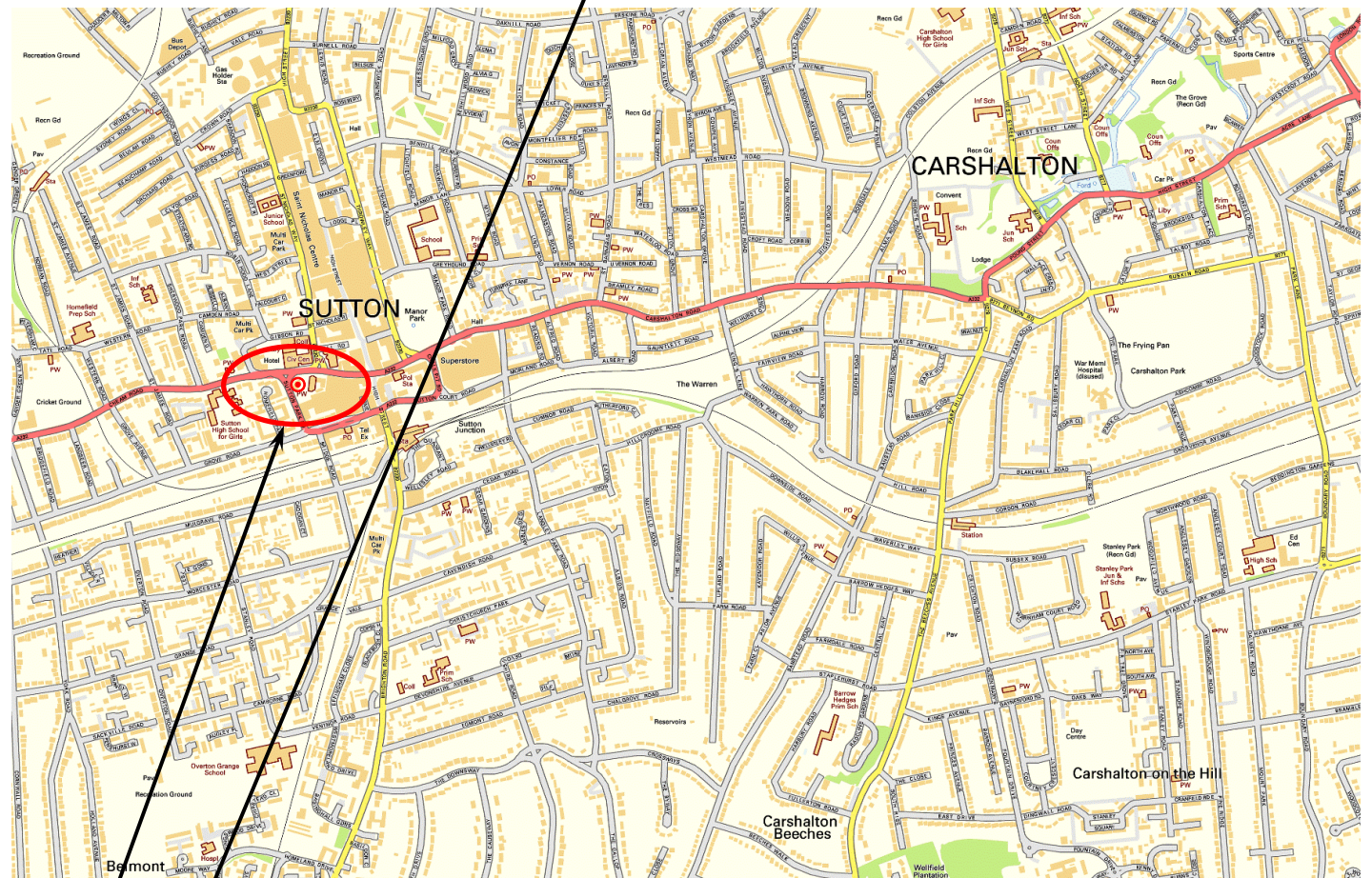
- 17 Whilst our investigation may include asbestos screening/quantification on selected samples, this must not be deemed to constitute a full asbestos survey or be taken as sufficient to definitively identify the presence or quantity of asbestos within or on the ground. We will not accept responsibility if asbestos is encountered during any subsequent construction or development works and in placing a contract with us the Client accepts this condition. Where the fabric of a building is to be disturbed, the Client shall provide an appropriate asbestos survey to us prior to exploratory work and make adequate provision to allow us to provide relevant protective/remedial measures to progress the work safely.
- 18 The Client agrees that they shall not bring any claim personally against any director/employee of Soil Consultants Ltd or consultant to us in respect of loss or damage suffered by the Client arising out of this contract.
- 19 Our appointment shall be under simple agreement and our liability under this contract shall be for a period of six years from date of appointment.
- 20 Our reports are non-assignable and are prepared for the benefit of the Client. No reliance can be assumed by others without written agreement from Soil Consultants Ltd. We will provide a letter of reliance at our discretion and this will be subject to payment of our fee, which will be 10% of contract value, subject to a minimum fee of £750 plus VAT. The terms of our letter of reliance are non-negotiable and the beneficiary should be aware that the information shall only apply to the scheme for which the report was originally produced and the original rights and benefits will apply.
- 21 A VAT invoice (at current rate) will be presented in respect of the work undertaken. Payment of our account is to be made within twenty-eight days of issue of our invoice unless otherwise agreed. On no account shall payment be on a 'pay-when-paid' basis. The information contained within our report remains the property of Soil Consultants Ltd and no reliance may be assumed by any party with an interest in the project until payment has been received in full. After one calendar month interest shall be chargeable at 10% above the Bank of England Rate and compensation claimed in accordance with 'Late Payments of Commercial Debts (Interest) Act 1998 and subsequent revisions. If the debt is referred to a debt collection agency then we have the right to recover associated fees under the terms of our contract.

APPENDIX A

Plans, drawings and photographs

-  Site Location Map
-  Site Plan
-  Site walkover photo plan
-  Site photographs
-  Proposed development plans and views

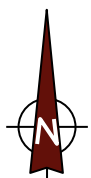
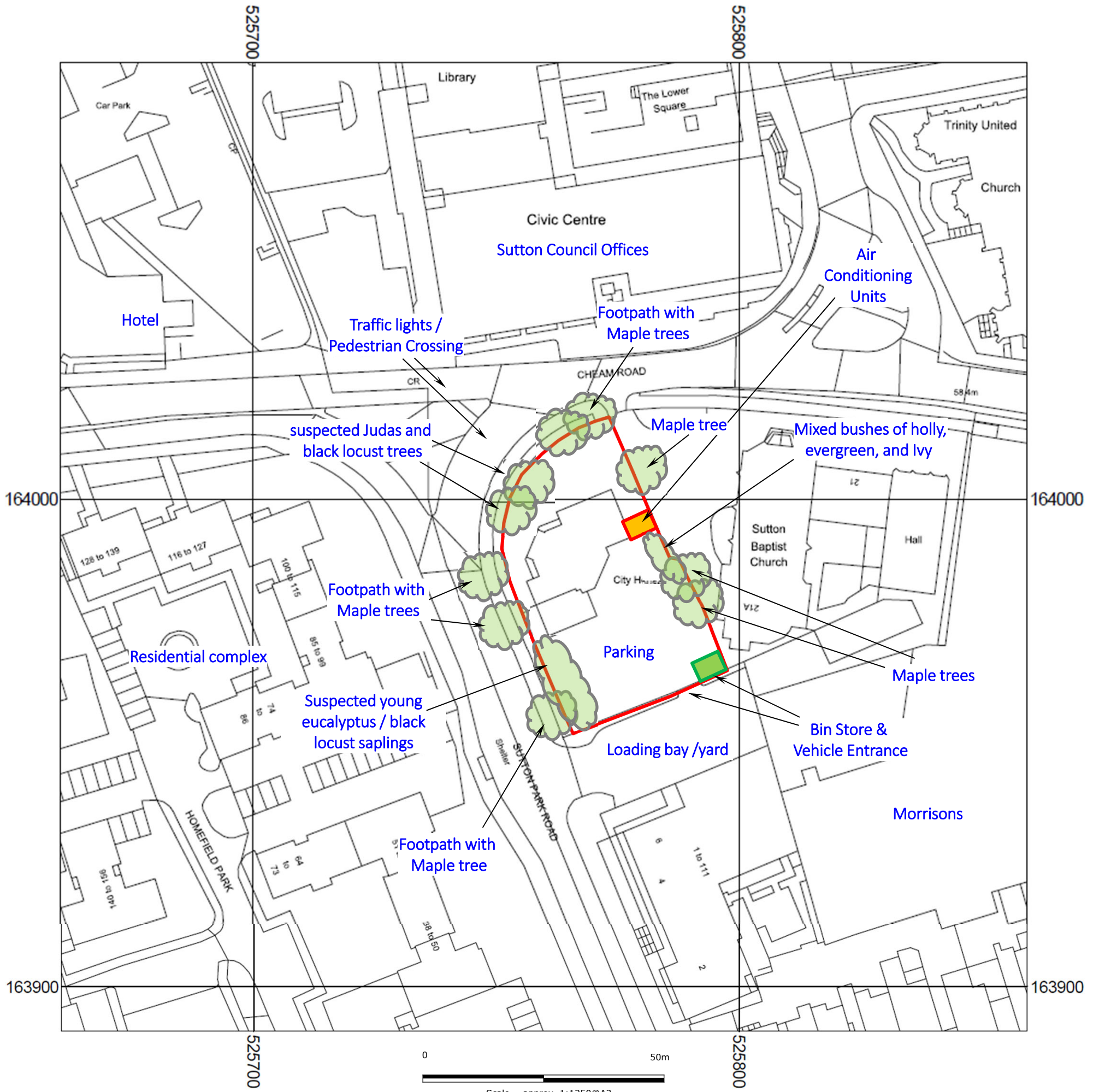
Site Location Map



SITE LOCATION

(Contains Ordnance Survey data © Crown copyright and database right 2023)

Site Plan

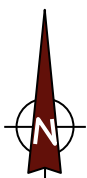


Site Walkover Photo Plan



0 50m

Scale = approx. 1:1250@A3



Site photographs

Photo No 1

Description:

Sutton council offices (left), A232 & Trinity Church Sutton (centre) and pedestrian access to site (right)

**Direction:
Looking E**

**Date:
14/11/23**



Photo No 2

Description:

Sutton council offices (right), A232 with Holiday Inn & Trinity Church Sutton (centre) and pedestrian access to site (right)

**Direction:
Looking NNE**

**Date:
14/11/23**



Site photographs

Photo No 3

Description:

**A232
carriageway
with
residential
flats beyond**

**Direction:
Looking SW**

**Date:
14/11/23**



Photo No 4

Description:

**Southwest site
boundary
marked by
metal fence,
with twelve
storey
residential and
commercial
structure
beyond to
south**

**Direction:
Looking SSE**

**Date:
14/11/23**



Site photographs

Photo No 5

Description:

Southern boundary of site (left), with shared access to site residential flats beyond

**Direction:
Looking SW**

**Date:
14/11/23**



Photo No 6

Description:

Mixed use building to south with lower ground floor parking, commercial space and residential flats above

**Direction:
Looking E**

**Date:
14/11/23**



Site photographs

Photo No 7

Description:

Eastern boundary of site (right), with Church and church car park and Sutton Council offices (left)

**Direction:
Looking NE**

**Date:
14/11/23**



Photo No 8

Description:

Site (right) and church with car park (left)

**Direction:
Looking S**

**Date:
14/11/23**



Site photographs

Photo No 9

Description:

**Site vehicle
entrance via
electric gate
from loading
bay (right)
and bin
storage area
in south east
corner of site**

**Direction:
Looking ESE**

**Date:
14/11/23**



Photo No 10

Description:

**Bin storage
adjacent to
the vehicle
entrance**

**Direction:
Looking E**

**Date:
14/11/23**



Site photographs

Photo No 11

Description:

**City House and
car park area**

**Direction:
Looking NW**

**Date:
14/11/23**



Photo No 12

Description:

**Parking area,
southern
boundary**

**Direction:
Looking SW**

**Date:
14/11/23**



Site photographs

Photo No 13

Description:

**City House
main entrance
(right) with
undercroft**

**Direction:
Looking W**

**Date:
14/11/23**



Photo No 14

Description:

**Fenced area
containing air
conditioning
units in the
central part of
the eastern
boundary**

**Direction:
Looking N**

**Date:
14/11/23**



Site photographs

Photo No 15

Description:

**Parking area
beneath City
House**

**Direction:
Looking E**

**Date:
14/11/23**



Photo No 16

Description:

**Fence of the
central west
boundary of
site**

**Direction:
Looking NE**

**Date:
14/11/23**



Site photographs

Photo No 17

Description:

**City House
undercroft**

**Direction:
Looking E**

**Date:
14/11/23**



Photo No 18

Description:

**West facade of
City House**

**Direction:
Looking SE**

**Date:
14/11/23**



Site photographs

Photo No 19

Description:

Front of City House with pedestrian paths, lawn and trees

**Direction:
Looking N**

**Date:
14/11/23**



Photo No 20

Description:

North garden area and metal railing which marks northern boundary

**Direction:
Looking N**

**Date:
14/11/23**



Site photographs

Photo No 21

Description:

**City House
northern
pedestrian
entrance**

**Direction:
Looking SE**

**Date:
14/11/23**



Photo No 22

Description:

**North garden
area with
vegetation/
trees.
Wooden
fence marks
eastern site
boundary**

**Direction:
Looking E**

**Date:
14/11/23**



Site photographs

Photo No 23

Description:

**North eastern
facade of City
House**

**Direction:
Looking S**

**Date:
14/11/23**



Photo No 24

Description:

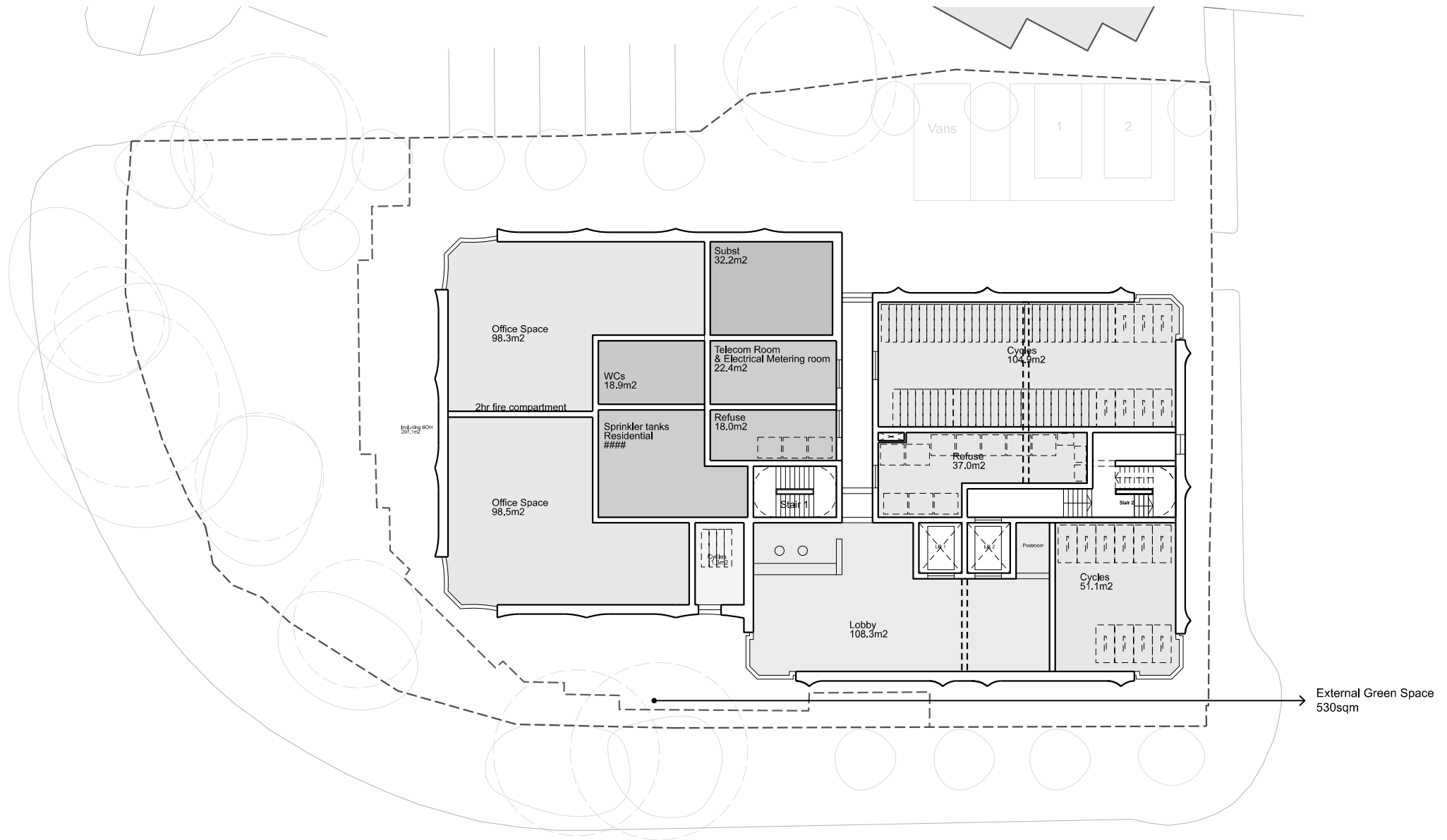
**View of Air
conditioning
units and church
beyond**

**Direction:
Looking SE**

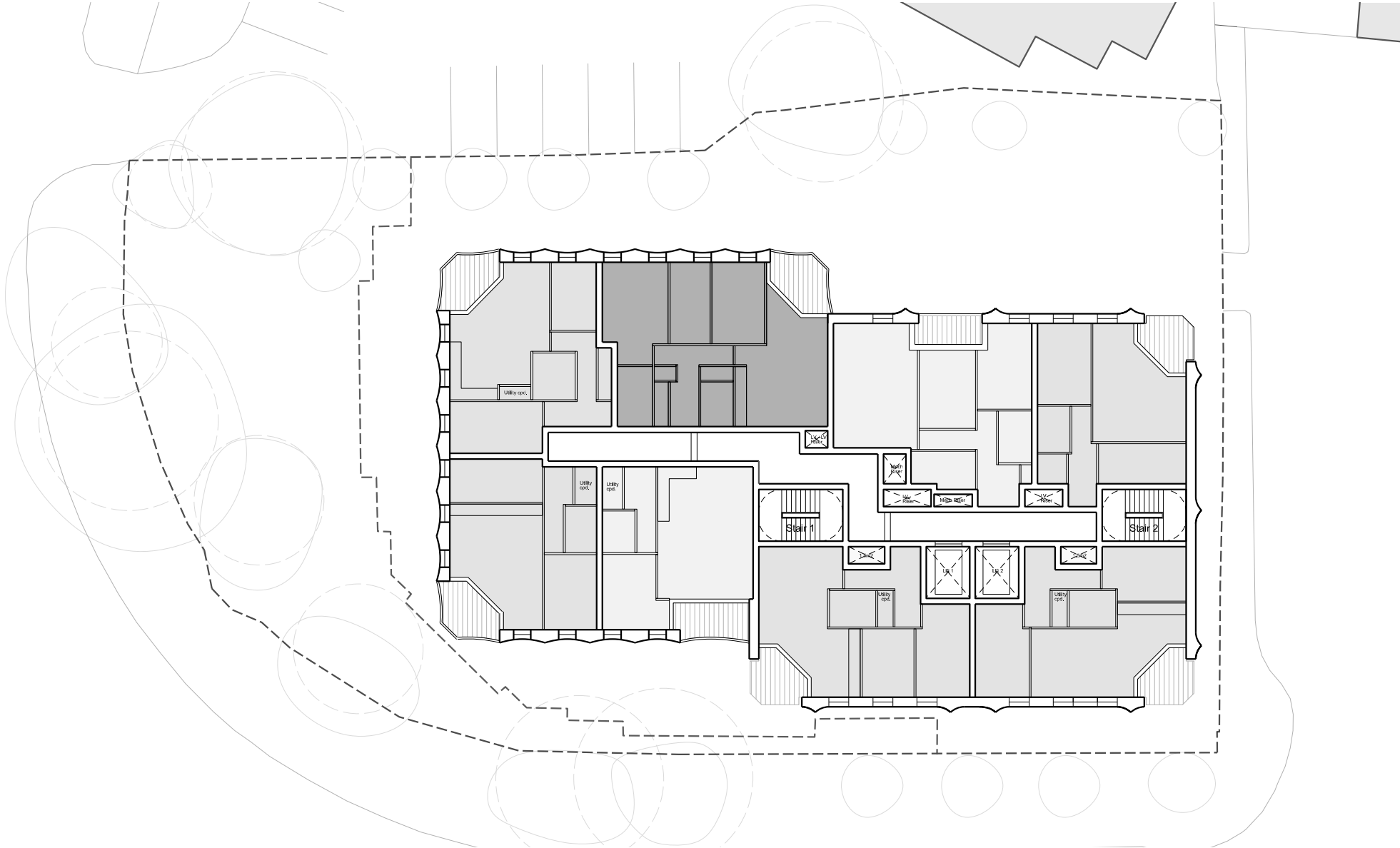
**Date:
14/11/23**



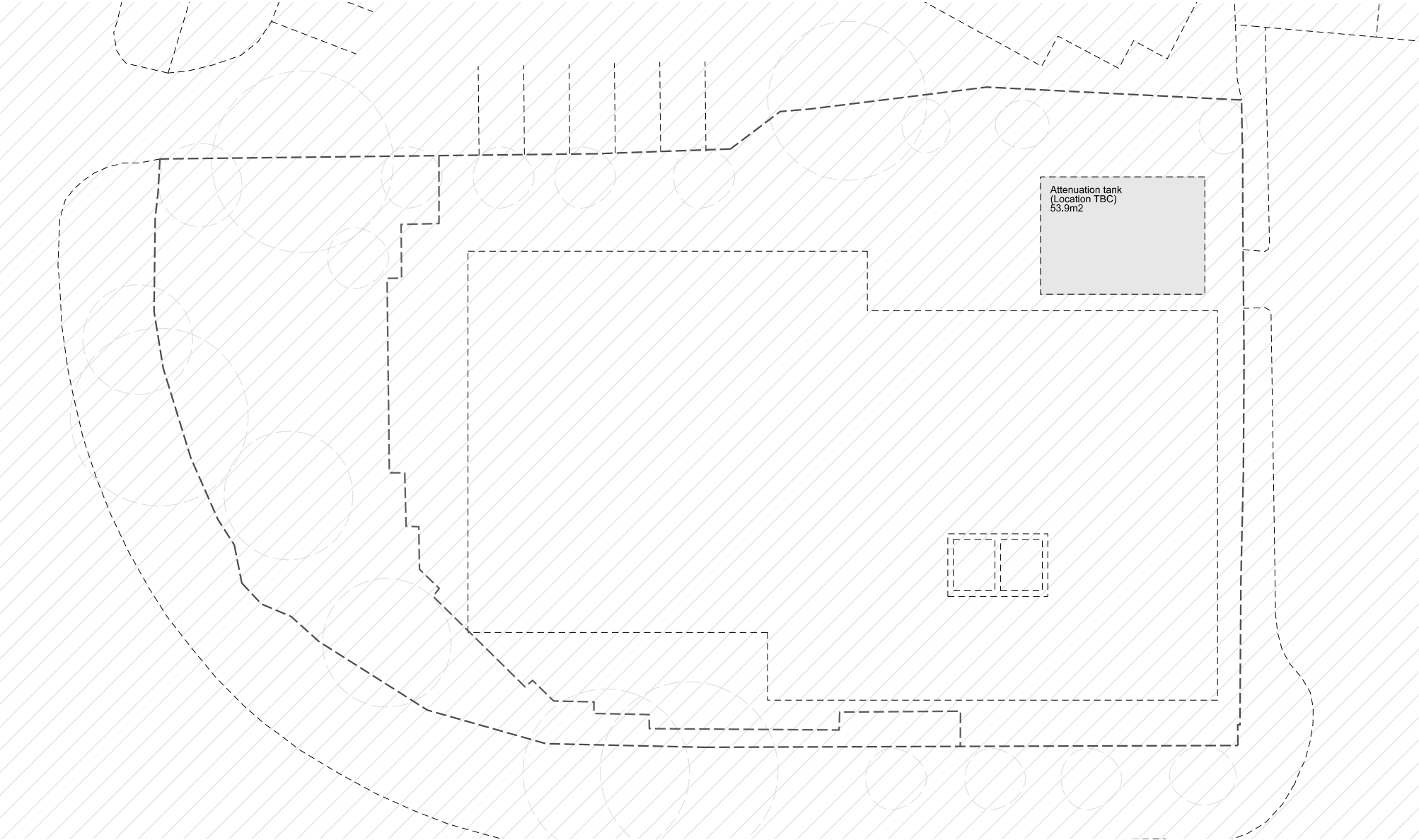
GROUND FLOOR PLAN



TYPICAL LOWER FLOOR PLAN



BASEMENT PLAN



STREETSCAPE VIEWS

VIEW FROM CHEAM ROAD (VIEW 1)



STREETSCAPE VIEWS

VIEW FROM CHEAM ROAD (VIEW 9)



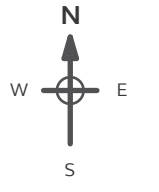
APPENDIX B

- ✚ GroundSure historical maps (Ref GS-WJX-YP7-GWU-Z11)
- ✚ GroundSure Enviro+Geo Insight Report (Ref GS-535-AHO-SWW-KVZ)

Site Details:
 CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series
Map date: 1840
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1840
 Revised 1840
 Edition N/A
 Copyright N/A
 Levelled N/A

Powered by

 Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

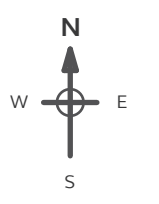
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Site Details:
 CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series
Map date: 1865
Scale: 1:2,500
Printed at: 1:2,500



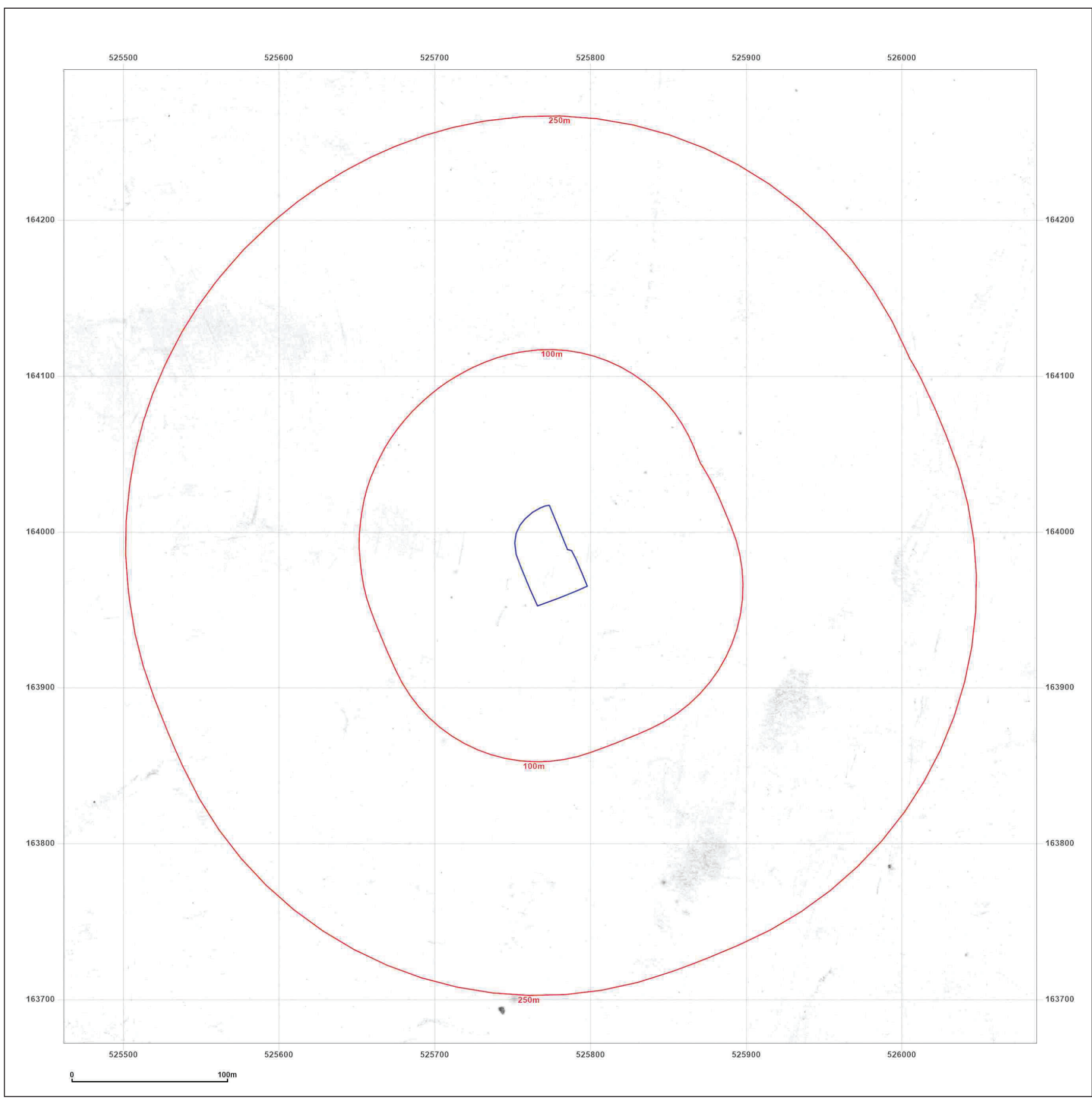
Surveyed 1840
 Revised 1840
 Edition N/A
 Copyright N/A
 Levelled N/A

Powered by
 Produced by Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984


Map Name: County Series
Map date: 1866-1867
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1867
 Revised 1867
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1866
 Revised 1866
 Edition N/A
 Copyright N/A
 Levelled N/A

Powered by

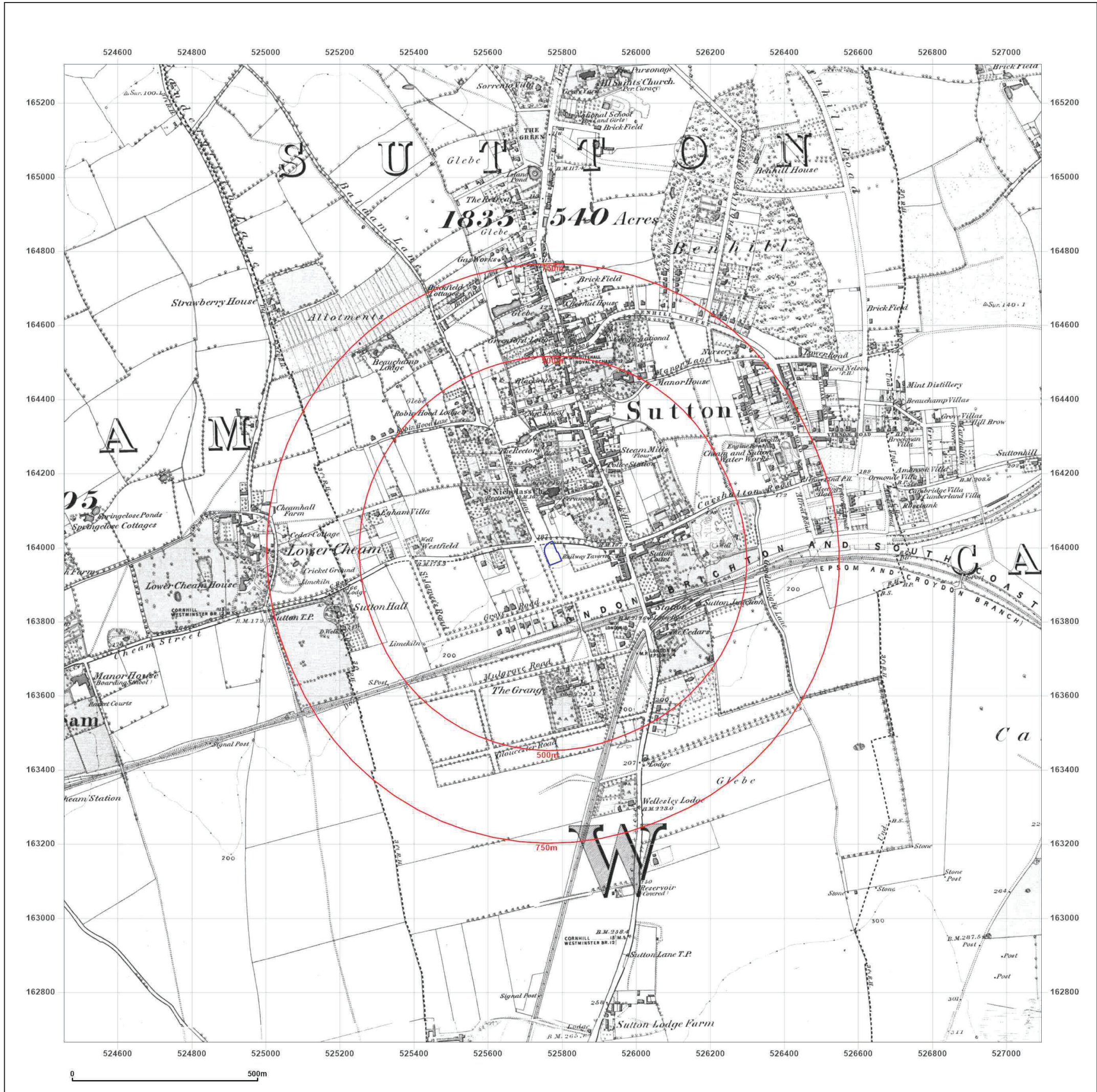


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

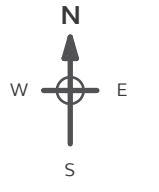
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Site Details:
 CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series
Map date: 1868
Scale: 1:2,500
Printed at: 1:2,500



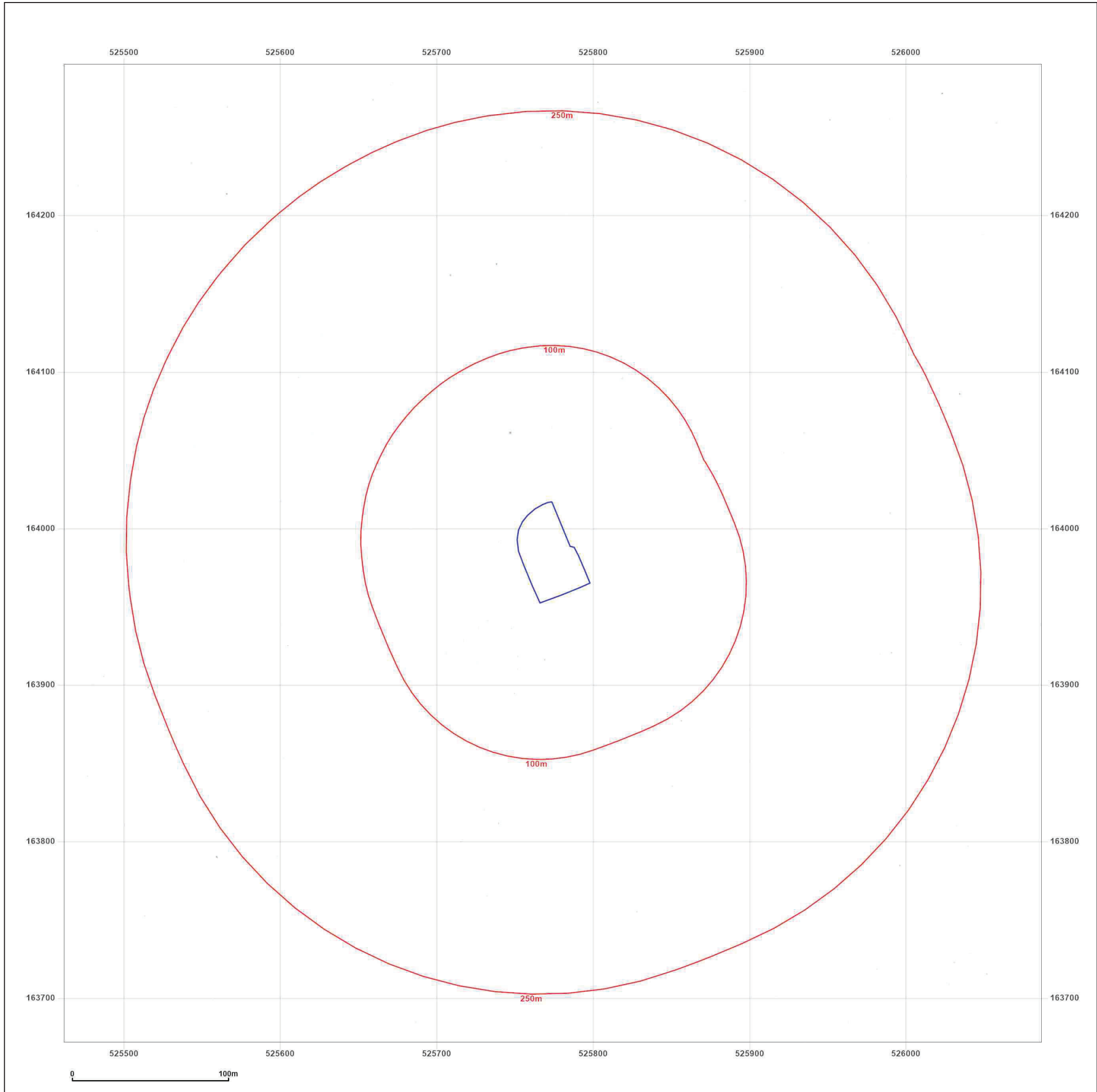
Surveyed 1868
 Revised 1868
 Edition N/A
 Copyright N/A
 Levelled N/A

Powered by
 Produced by Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
 Report Ref: GS-WJX-YP7-GWU-Z11
 Grid Ref: 525774, 163984

Map Name: County Series

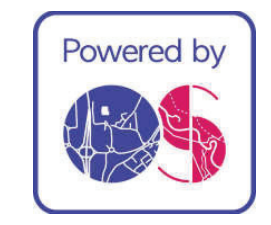
Map date: 1896

Scale: 1:2,500

Printed at: 1:2,500



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



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series

Map date: 1895-1897

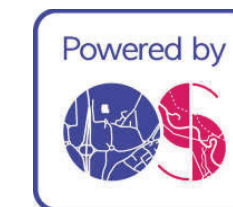
Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
 Revised 1895
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1894
 Edition N/A
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

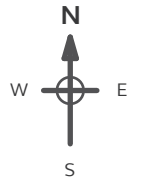


Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series
Map date: 1894-1898
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1867
 Revised 1895
 Edition 1898
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1894
 Edition N/A
 Copyright N/A
 Levelled N/A

Powered by



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series

Map date: 1910-1911

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1911
 Edition N/A
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

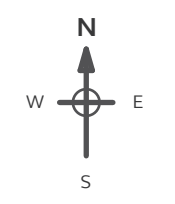
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series

Map date: 1913

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1913
 Revised 1913
 Edition N/A
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

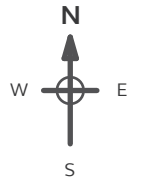
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

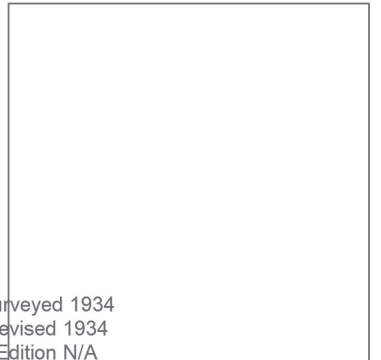


Site Details:
 CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE


Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series
Map date: 1934
Scale: 1:2,500
Printed at: 1:2,500





Surveyed 1934
 Revised 1934
 Edition N/A
 Copyright N/A
 Levelled N/A

Powered by  Produced by Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series

Map date: 1934

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
 Revised 1934
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1934
 Edition N/A
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

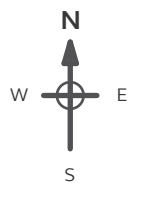
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series

Map date: 1934-1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
 Revised 1934
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1938
 Edition 1938
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
 Revised 1938
 Edition 1938
 Copyright N/A
 Levelled N/A

Surveyed 1867
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

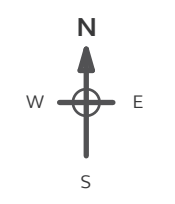
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

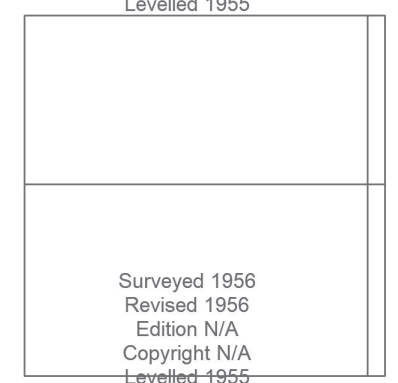
Map date: 1955-1956

Scale: 1:1,250

Printed at: 1:2,000



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



Surveyed 1956
 Revised 1956
 Edition N/A
 Copyright N/A
 Levelled 1955



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

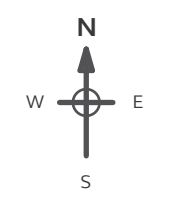
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

Map date: 1955-1956

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed 1955
 Revised 1955
 Edition 1956
 Copyright N/A
 Levelled 1955

Surveyed 1956
 Revised 1956
 Edition 1957
 Copyright N/A
 Levelled 1955

Surveyed 1956
 Revised 1956
 Edition 1957
 Copyright N/A
 Levelled 1954

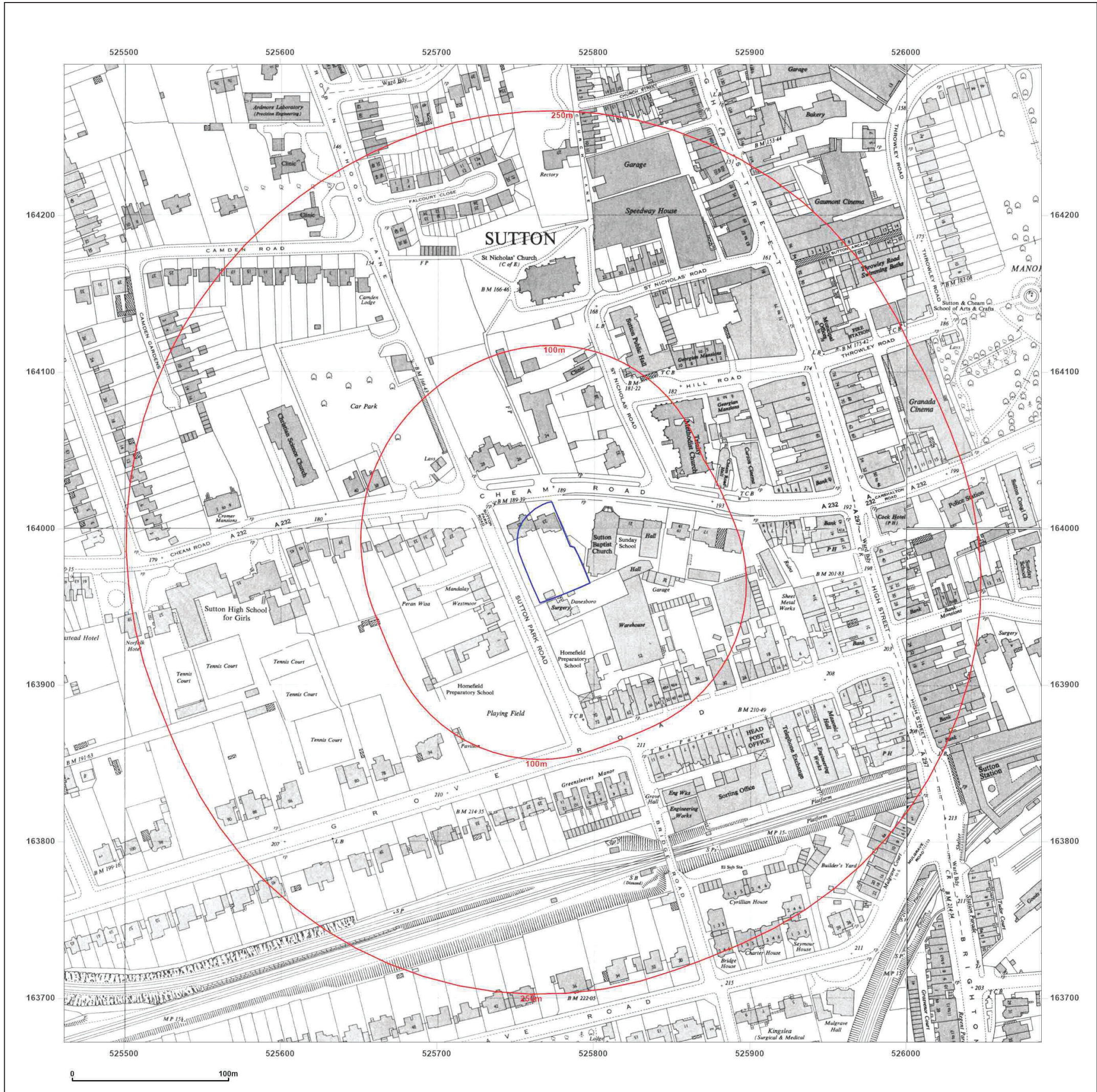


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

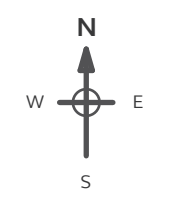
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

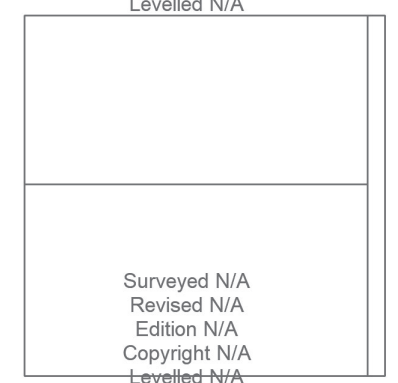
Map date: 1956-1957

Scale: 1:1,250

Printed at: 1:2,000



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



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



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: Provisional

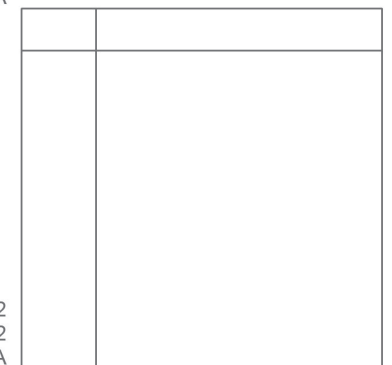
Map date: 1957-1962

Scale: 1:10,560

Printed at: 1:10,560



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



Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

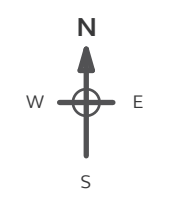
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

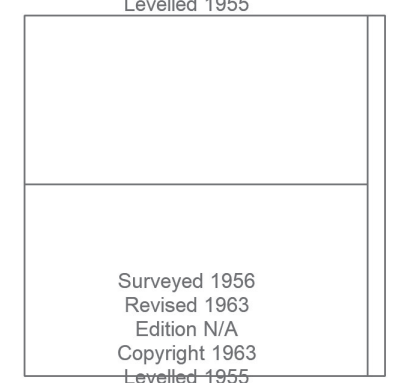
Map date: 1963-1965

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
 Revised 1964
 Edition N/A
 Copyright 1965
 Levelled 1955



Surveyed 1956
 Revised 1963
 Edition N/A
 Copyright 1963
 Levelled 1955

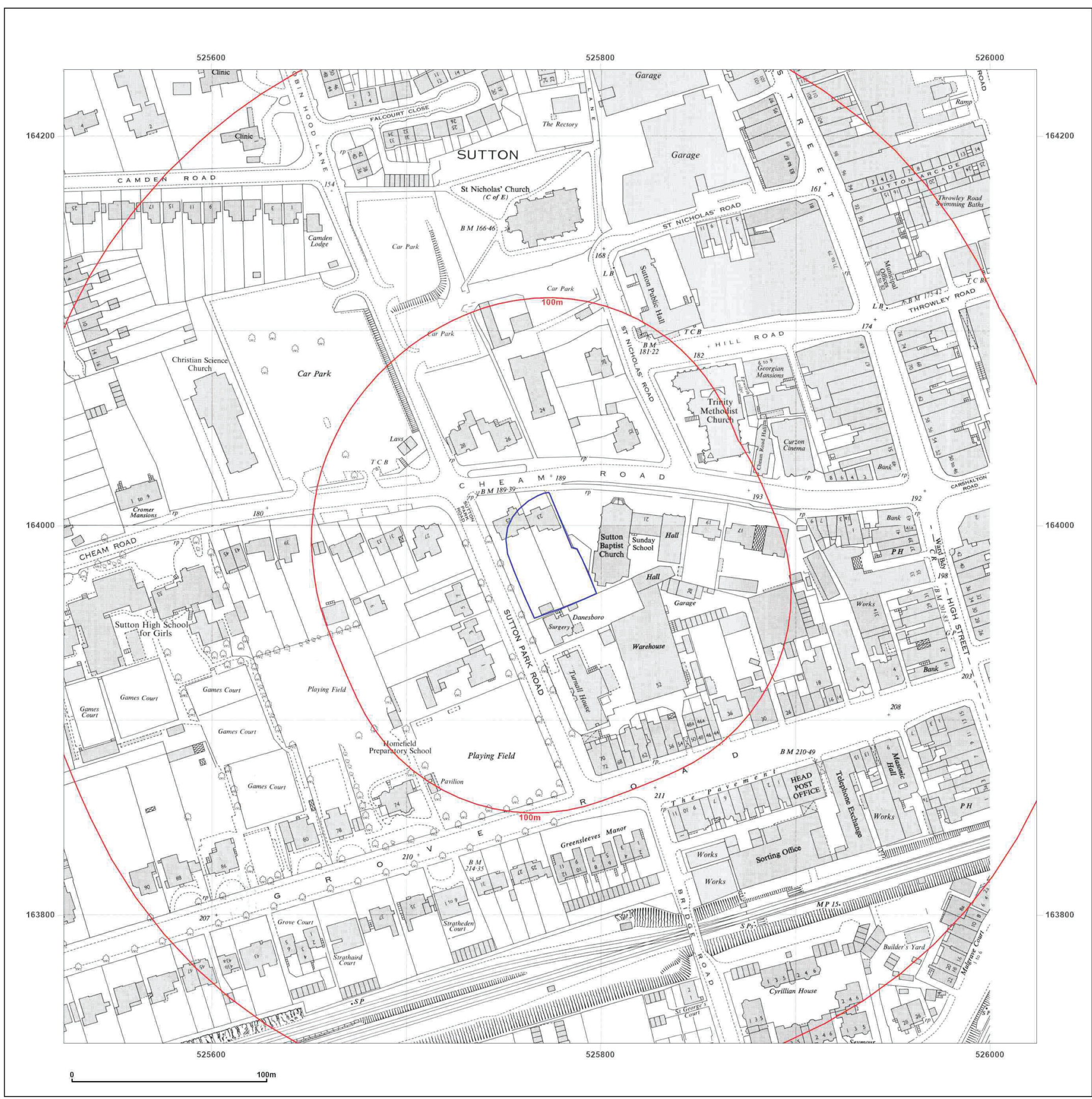


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

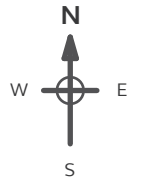
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Site Details:
 CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid
Map date: 1967
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1956
 Revised 1967
 Edition N/A
 Copyright 1971
 Levelled 1964

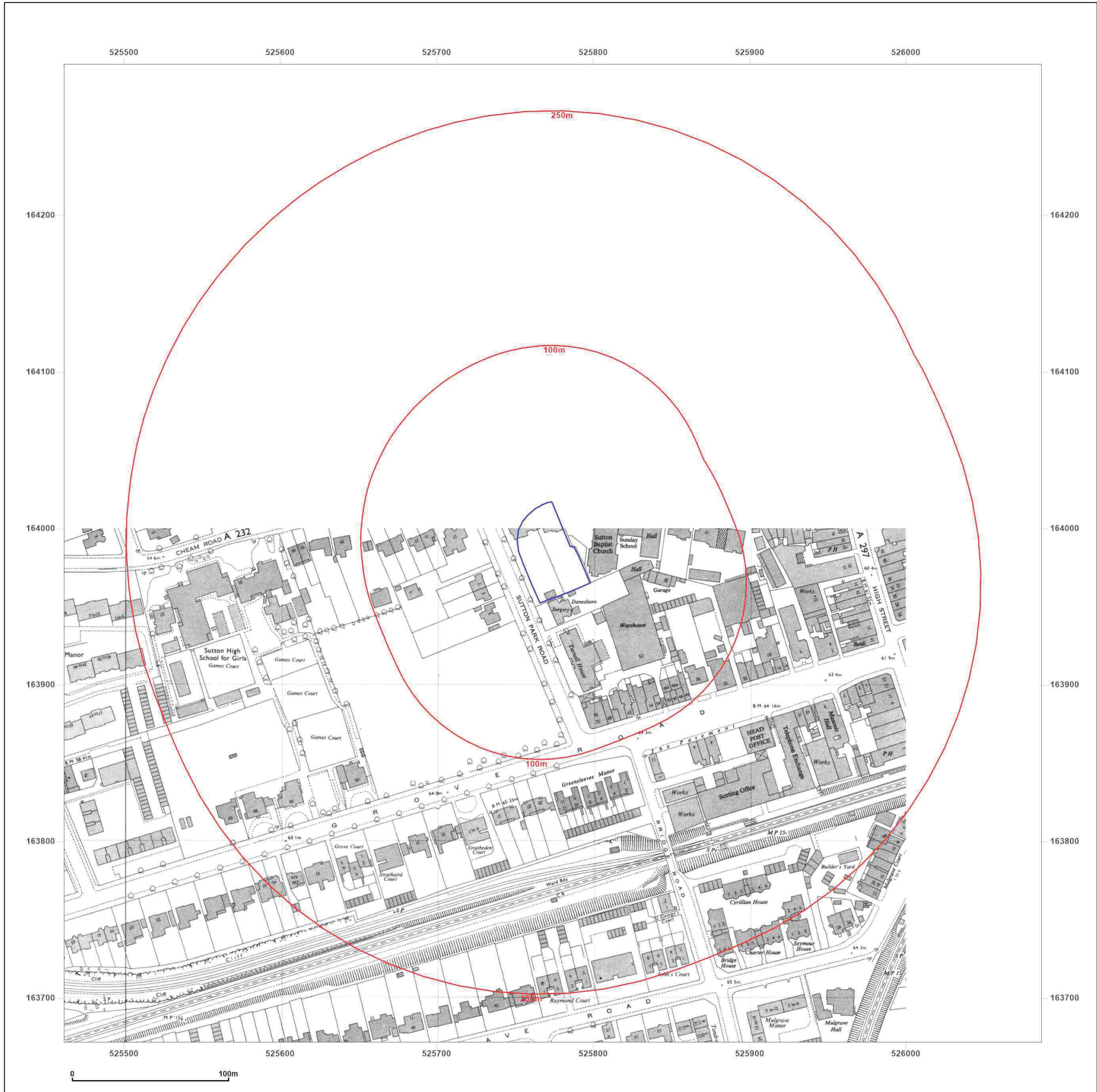
Powered by


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: Provisional

Map date: 1965-1968

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1968
 Levelled N/A



Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright 1967
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

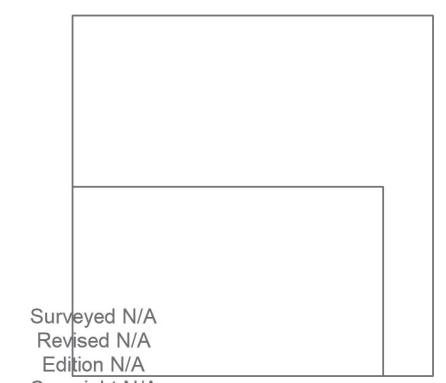
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

Map date: 1971

Scale: 1:2,500

Printed at: 1:2,500



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

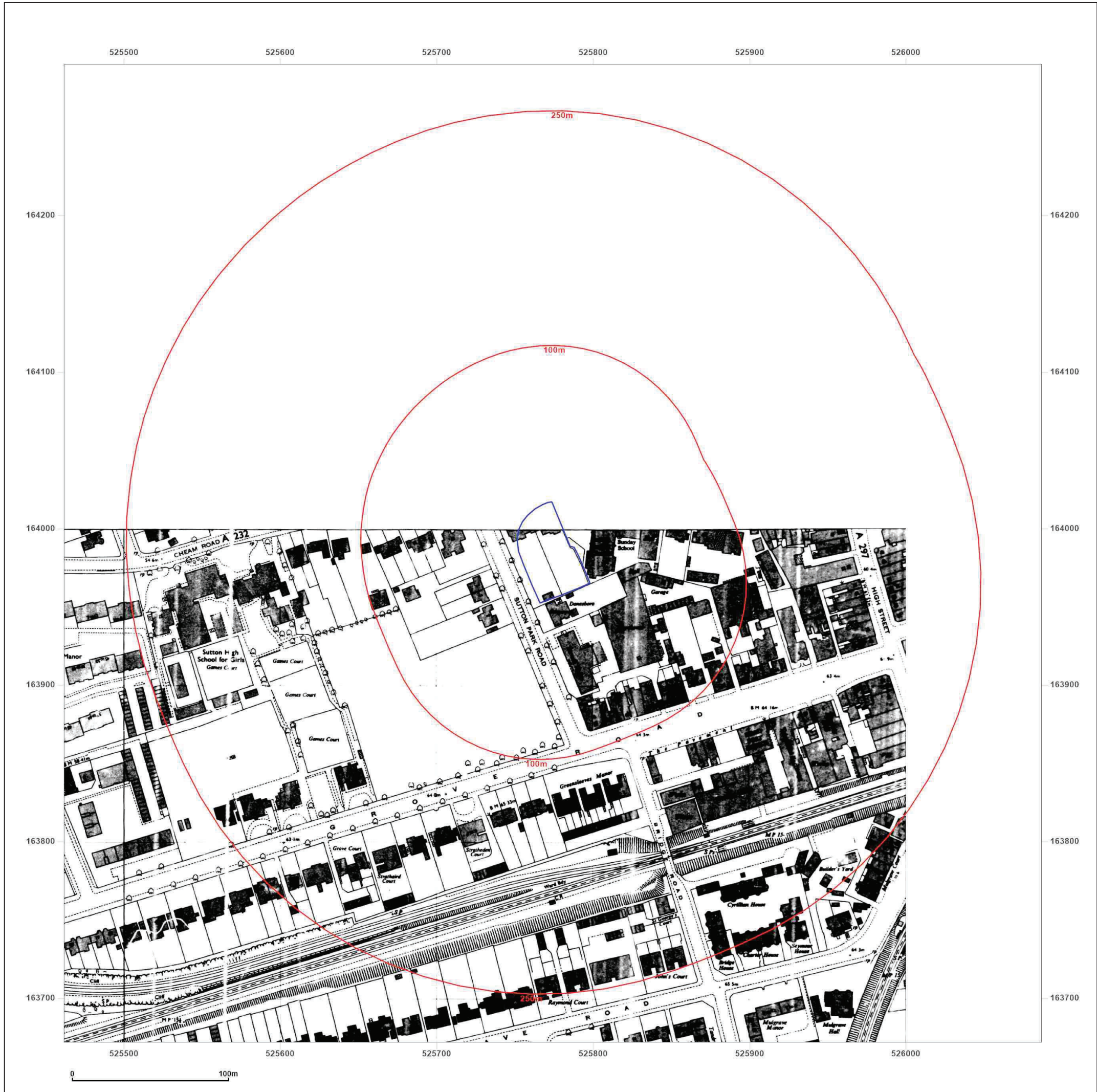


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

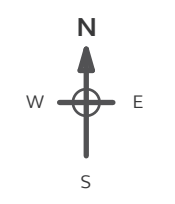
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

Map date: 1970-1973

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1972 Revised 1972 Edition N/A Copyright N/A Levelled N/A	Surveyed 1955 Revised 1972 Edition N/A Copyright 1972 Levelled 1971
Surveyed 1956 Revised 1972 Edition N/A Copyright 1973 Levelled 1971	Surveyed 1955 Revised 1969 Edition N/A Copyright 1970 Levelled 1955



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

Map date: 1973-1975

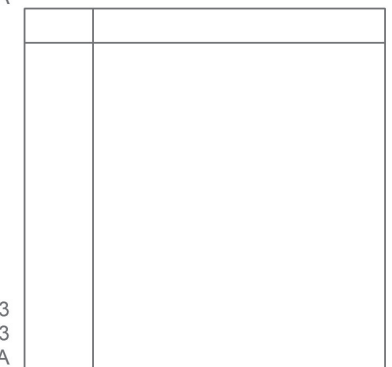
Scale: 1:10,000

Printed at: 1:10,000



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

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



Surveyed 1973
 Revised 1973
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1973
 Revised 1973
 Edition N/A
 Copyright N/A
 Levelled N/A



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

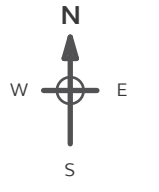
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
 CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid
Map date: 1982
Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1980
 Revised 1982
 Edition N/A
 Copyright N/A
 Levelled N/A

Powered by

 Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

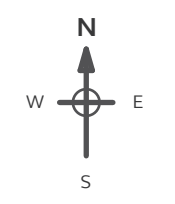
Client Ref: 10902-SG
 Report Ref: GS-WJX-YP7-GWU-Z11
 Grid Ref: 525774, 163984

Map Name: National Grid

Map date: 1978-1982

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1982
 Levelled 1971

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



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

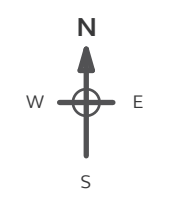
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

Map date: 1981-1986

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1971
 Revised 1981
 Edition N/A
 Copyright 1981
 Levelled 1971

Surveyed 1971
 Revised 1986
 Edition N/A
 Copyright 1986
 Levelled 1971

Surveyed 1971
 Revised 1986
 Edition N/A
 Copyright 1986
 Levelled 1971



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

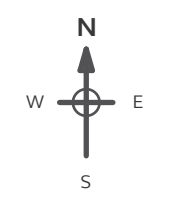
Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid

Map date: 1985-1989

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1971
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1971

Surveyed 1955
 Revised 1988
 Edition N/A
 Copyright 1989
 Levelled N/A

Surveyed 1971
 Revised 1987
 Edition N/A
 Copyright 1987
 Levelled 1971



Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

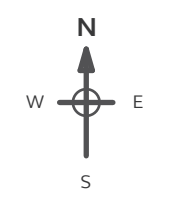
Client Ref: 10902-SG
 Report Ref: GS-WJX-YP7-GWU-Z11
 Grid Ref: 525774, 163984

Map Name: National Grid

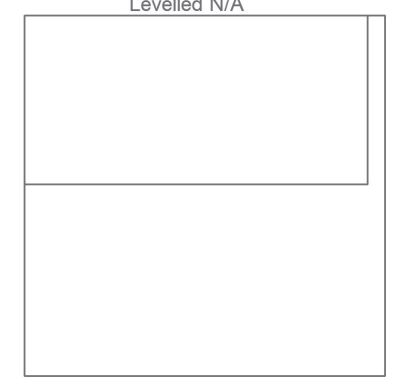
Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1992
 Levelled N/A

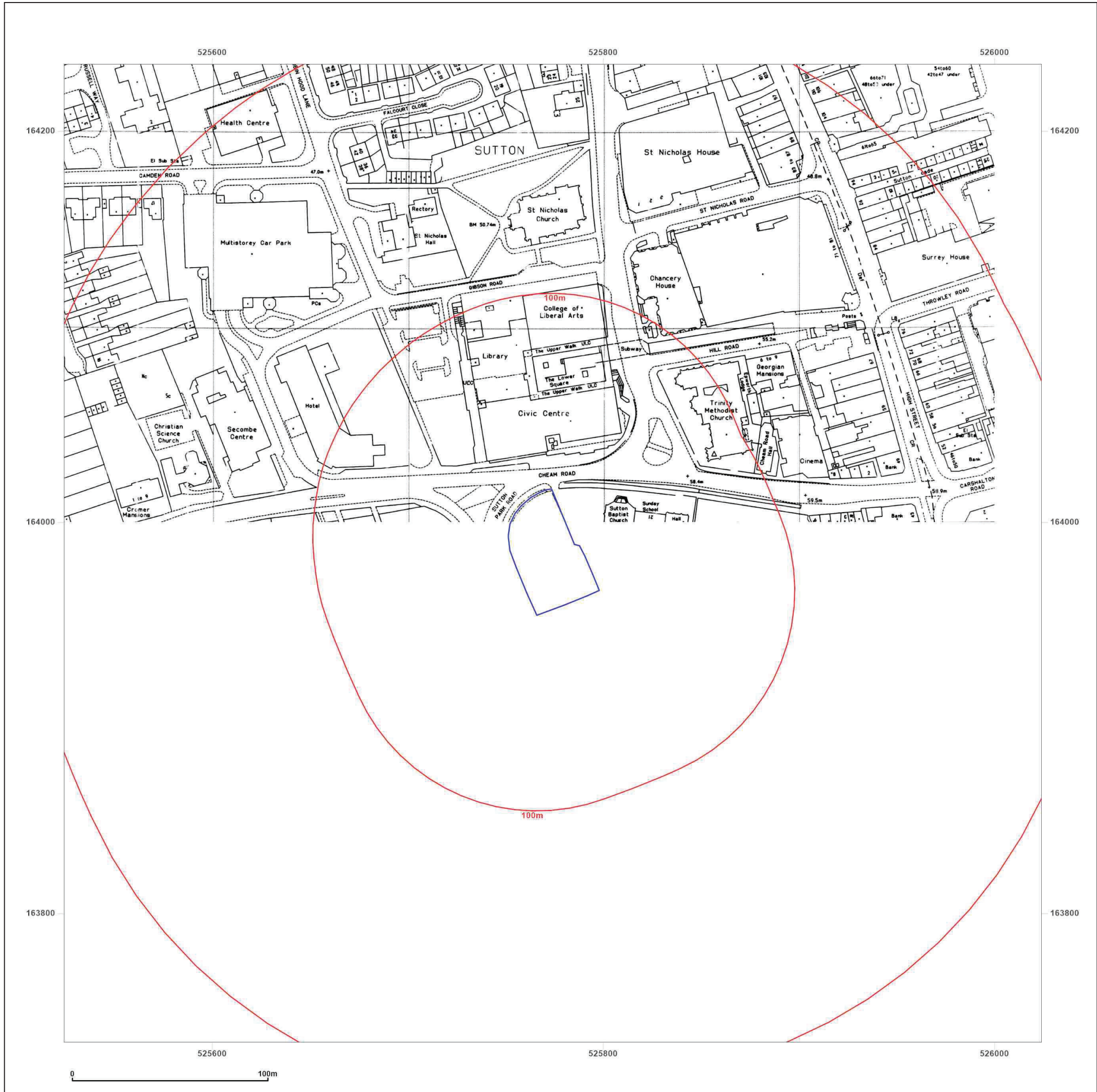


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

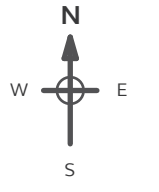
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
 CITY HOUSE, SUTTON PARK ROAD, SUTTON, SM1 2AE

Client Ref: 10902-SG
Report Ref: GS-WJX-YP7-GWU-Z11
Grid Ref: 525774, 163984

Map Name: National Grid
Map date: 1992
Scale: 1:1,250
Printed at: 1:2,000



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

Powered by
 Produced by Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 November 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

