DAVID LLOYD EPSOM
LEISURE CENTRE

PHASE 1:
PRELIMINARY RISK ASSESSMENT

Job Number: LKC 21 5152
Date: December 2021
Client: Francis Bradshaw Partnership LLP

INCREASING LAND VALUE

LK GROUP

INCREASING LAND VALUE

LK GROUP

LK Consult Document Verification			
Site Address	David Lloyd Health and Fitness Club, Central Boiler House, Horton Lane, Epsom, Surrey, KT19 8PL.		
Report Title	Phase 1: Preliminary Risk Assessment		
Job Number	LKC 21 5152	**Document Ref.**	CL-602-LKC 21 5152-01
Date Issued	December 2021	**Report Version**	R1
Prepared By	I A Deans	**Reviewed By**	S Johnson

Revision Record			
Revision No.	**Date**	**Nature of Revision**	**Approved By**
1	**Dec 2021**	**With Client Comments**	**IAD**

DISCLAIMER

This report has been prepared by LK Consult (LKC) who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant, experienced in preparing reports of a similar scope.

However, to the extent that the report is based or relies upon information contained in records, reports or other materials provided to LKC, which have not been independently produced or verified, LKC gives no warranty, representation or assurance as to the accuracy or completeness of such information.

This report is prepared solely for the benefit of Francis Bradshaw Partnership LLP. It may not be relied upon by, or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk.

Contents

Figures

Appendices

1 Introduction

LK Consult Ltd (LKC) has been commissioned to carry out a Phase 1 Preliminary Risk Assessment (PRA) for David Lloyd Health and Fitness Club, Central Boiler House, Horton Lane, Epsom, Surrey, KT19 8PL.

In accordance with current guidance (including LCRM[1] and the National Planning Policy Framework (NPPF)[2]), the PRA will include a site reconnaissance, site history, geology, hydrogeology, hydrology, mineral search and a landfill search. Information gathered from the desk study and site reconnaissance will be used to develop a contamination conceptual model for the site.

In addition, the information gathered will be used to identify potential geotechnical constraints associated with the redevelopment of the site.

Based on the findings of this report, an appropriate site investigation can be derived, if required.

Site details are provided in Table 1-1. Figure 1 shows the site location and boundary. Figure 2 shows the proposed development plan.

Site Location	David Lloyd Leisure Centre, Central Boiler House, Horton Lane, Epsom, Surrey, KT19 8PL. Centred at approximate National Grid Reference 519247E 162089N (nearest 5m).
Approximate Area	665m^2.
Topography	General site level is 53 metres Above Ordnance Datum (AOD). Site is approximately level around the pool and varies to the west off site and to the south to 52mAOD.
Current Site Use	Existing Leisure Centre with large open grassed area to north and west of the existing structure.
Purpose of Report	Planning.
Planning Ref.	21/00772/FUL
Proposed Development	Commercial building with soft landscaping. Extensions to existing David Lloyd Health and Fitness Club for new Spa extension and garden facility and extension of existing external pool terrace.

Table 1-1: Summary of site details

[1] Land Contamination Risk Management (LCRM) https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
[2] "National Planning Policy Framework." The Ministry of Housing, Communities and Local Government. Published March 2012, Updated July 2021.

2 Historical Review

2.1 Historical Map Review

In compiling the site history, LKC consulted Envirocheck historical mapping (Appendix A).

Table 2-1 summarises features on site.

Table 2-2 summarises potentially contaminative land uses within approximately 50m and potentially infilled features within approximate 250m.

Site Features	Location on Site	Dates Present		Comments
		From	To	
Open fields	Whole Site	1869	1913	Open fields.
Swimming pool	Southern part of the site	1913	1953	Pool marked as disused.
Norton Light Railway	NE part of site	1932	1954	Rail track crosses the far NE corner of the site extension areas.
Drain	W part of site	1954	Present	Drain, open ditch flowing south
Leisure centre	Part site	2006	Present	Pumping station / hospital converted and leisure centre established with tennis courts.

Table 2-1: Summary of site features. Dates based on available historical map editions.

Surrounding Area Features	Distance (m)	Direction	Dates Present		Comments
			From	To	
Open fields	0	N-E-S-W	1869		
Pumping Station	25	S & E	1913	1953	Pumping Station and Electric Light Works (London County Asylums)
Sherwood	30	S	1953		Pumping Station labelled as The Manor Hospital
Norton Light Railway	0	N	1932	1948	With rail sidings to East.
London County Asylum	300	E	1913		Asylum buildings complex with lodge to main gate and support buildings within grounds.
London County Asylum	300	N and S	1914		Asylum buildings complexes to the North and South.
Pumping Station	50	E	1962		Pumping Station/Boiler House with tanks and chimney
Electrical Substation	170	SE	1962	Present	
Mast	130	SW	2006	Present	
Pond	40	W	2006	Present	

Table 2-2: Summary of potentially contaminative features within 50m and potentially infilled features with 250m. Dates are based on available historical map editions.

Plate 2-1 shows the features noted in Table 2-1 and 2-2.

Plate 2-1: Historical features.

3 Environmental Setting

A summary of environmental settings is presented in Table 3-1, based on a review of available environmental data.

Categories(data sources)			Details
Geology[1, 2]	Artificial		- Made Ground recorded in the north.
	Superficial		- None.
	Bedrock		- London Clay
	BGS Logs (<50m)		- BH Ref: TQ16SE137, 20m E: topsoil to 0.15m, made ground to 0.75m, soft to firm orange/brown Clay to 1.2m.
Hydro-geology[1]	Aquifer Designation	- Superficial	- N/A.
		- Bedrock	- Unproductive Strata.
	Source Protection Zone (SPZ)		- Site not within an SPZ.
	Groundwater Abstractions (100m)		- None.
Hydrology[1]	Surface Water Courses (100m)		- Open ditch/drain flowing south along western boundary.
	Flooding risk		- Flood Zone 1.
			- Potential for surface water flooding in west.
	Surface Water Abstractions (100m)		- None.
	Discharge Consents		- None.
	Pollution Incidents		- Year: 1997 (95m S) Horton Country Park. o Pollutant: Oils unknown. o Severity: Category 2 Significant Incident. o Receiving water: Not given.
Minerals & Mining[1,4]	Coal Mining		- Not within a Coal Reporting Area. - Not within a Development High Risk Area.
	Surface Mineral Extractions (250m)		- None.
	Non-Coal Mining Area		- Not within an area of conclusive metalliferous mining.
Ground Stability[1]	Collapsible Ground		- Very low hazard.
	Compressible Ground		- No hazard.
	Ground Dissolution		- No hazard.
	Landslide		- Very low hazard.
	Running Sand		- No hazard.
	Shrinking / Swelling Clay		- Moderate hazard.
Landfill Sites (250m)[1]	Known / Registered		- None.
	Potentially Infilled Land (non-water and water), based on Envirocheck Report		- None
	Potentially infilled sites, based on LKC historical review		- None.
Radon Potential[1]			- <1% of homes above Action Level. No protective measures are necessary in the construction of new dwellings or extensions.
Designated Sites (50m)[1]			- Within and area of adopted Green Belt.
Contemporary Trade Directory (50m)[1]			- None within 50m. - Industrial historical interest Tank, 44m E, Inactive.
Substantiated Pollution Incident Register (50m)[1]			- Year: 1997 (95m S) Horton County Park. o Pollutant: Oils unknown. o Severity: Category 2 Significant Incident. - Receiving water: Not given.
Fuel Station Entries (50m)[1]			- None.

Categories(data sources)		Details
Unexploded Ordnance Risk (UXO)	Zetica Risk Map[6]	- Low.
	Historical / Current Military Activity	- None identified within 100m

Table 3-1: Summary of the environmental setting.

Notes: Distance in brackets is the distance from site that features are included. Where no distance given, features relate to on site only.

Data Sources:

1 Envirocheck Report (Appendix A & B)
2 BGS Sheet 270 1:50,000
3 BGS GeoIndex http://mapapps2.bgs.ac.uk/geoindex/home.html
4 The Coal Authority Web Mapping Services (WMS) / Interactive Map Viewer http://coal.decc.gov.uk/en/coal/cms/publications/data/map/map.aspx
6 Zetica UXO Unexploded Bomb Risk Map (Appendix D)

4 Site Reconnaissance

A site reconnaissance was carried out on 14 December 2021.

Relevant features identified on site are summarised below:

- The proposed extension sites are around the main outside pool and to the northwest of the main leisure centre building.
- The proposed extension areas are generally soft landscape and grassed, with the most northeast are hardstanding and used current for storage of materials and equipment.
- No access restrictions although access is through a security gate and barrier to the main site.
- No evidence of contamination identified.

The surrounding area comprises open spaces fields, Horton Farm to the north, Epsom equestrian stables to the south and residential properties to the east.

Relevant photographs are provided in Plate 4-1.

Photograph 1: View looking west along the southern access road and centre entrance.

Photograph 2: View of access gate to extension areas.

Photograph 3: View of stream/ditch to west of photograph 2 location.

Photograph 4: Main extension area north of pool sunning area.

Photograph 5: Main extension area north of pool sunning area looking west.

Photograph 6: Main extension area north of pool sunning area looking north to Horton Park.

Photograph 7: Extension area to north of main pool and gym looking east.

Photograph 8: Extension area to north of main pool and gym looking west.

Plate 4-1: Site photographs.

Relevant features from walkover are also shown on Plate 4-2.

Plate 4-2: Plan showing relevant site walkover features.

5 Preliminary Conceptual Model

5.1 Introduction

The aim of the conceptual model is to provide a preliminary assessment of the likelihood of a pollutant linkage for each potential combination of contaminant, pathway and receptor. A conceptual model can be used to make an informed decision on the contamination risks associated with the site and whether further site investigation work is required.

The Sections below are therefore divided into potential contaminant, potential pathway and potential receptor as described in LCRM[3], on the premise that, if there is no pollutant linkage, then there will be no risk to the receptor. The final Section provides an assessment of the potential pollutant linkages that may still be present on the site if redevelopment were to occur.

5.2 Potential Contaminants

Potential viable contamination sources are detailed in Table 5-1. These are split into onsite sources, offsite sources and underlying geology.

Potential Source	Contaminants
On Site	
Shallow Made Ground below some or all of site.	- Assuming predominantly reworked natural soils with possible demolition rubble, ash and clinker: Asbestos, heavy metals, sulphates, PAHs[4]. - Not expected to be a significant source of gas given anticipated depth and nature of Made Ground.
Farming fields	- Possible pesticide use in fields.
Former pool area	- Assuming predominantly reworked natural soils with possible demolition rubble, ash and clinker: Asbestos, heavy metals, sulphates, PAHs[5].
Surrounding Area	
Car park	- Assuming hardstood surface and no signs of spills / leaks on the site surface: No significant contamination source anticipated.
Railway land (including railway line / sidings).	- Fuels, oils, PAHs, ethylene gycol (antifreeze), creosote, solvents, herbicides (including atrazine and simazine), heavy metals (such as vanadium), sulphate, phenols and asbestos[6].
Commercial / public building	- Assuming a boiler house has been present: Petroleum hydrocarbons (fuel / oils) and heavy metals, sulphates, PAHs[7] (waste ash and clinker). - Demolished buildings: ACM.
Underlying Geology	
Bedrock London Clay	- Sulphate[8]
Radon Affected Area	- Radon.

Table 5-1: Potential contamination sources.

[3] Land Contamination Risk Management (LCRM) https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
[4] Defra (2002). "Potential Contaminants for the Assessment of Land". R&D Publication CLR 8.
[5] Defra (2002). "Potential Contaminants for the Assessment of Land". R&D Publication CLR 8.
[6] Department of the Environment Industry Profile – Railway Land (1995).
[7] Defra (2002). "Potential Contaminants for the Assessment of Land". R&D Publication CLR 8.
[8] BRE (2005). "Concrete in Aggressive Ground". SD1.

5.3 Potential Receptors

Potential receptors are detailed in Table 5-2.

Receptors	
Human Health	- Future site users (including residents, visitors and site workers). - Offsite land users. - As the proposed development is for commercial use, the most sensitive receptors (children) have not been included in this assessment.
Controlled Waters	- Stream/ditch along western site boundary flowing to south direction. - Unproductive Aquifer.
Buildings and structures.	
Potable water pipes.	
Flora within future gardens and landscaping.	

Table 5-2: Potential receptors.

5.4 Potential Pathways

Potential pathways are detailed in Table 5-3.

Pathways		
	Human Health[9] (commercial land use with soft landscaping)	- Ingestion of soil. - Ingestion of soil-derived indoor dust. - Dermal contact with soil. - Dermal contact with soil-derived indoor dust. - Inhalation of soil-derived outdoor dust. - Inhalation of soil-derived indoor dust. - Inhalation of vapours outside. - Inhalation of vapours inside. - Omitted: ingestion of contaminated vegetables and ingestion of soil attached to vegetables.
	- Windblown dust and fibres to adjacent receptors.	
	- Direct contact with receptors (building foundations, services).	
	- Root uptake.	
Water	- Surface run-off over impermeable surface. - Site is relatively flat and grassed; therefore, surface run-off will be limited.	
	- Infiltration into the ground, through potentially contaminated material (contamination possibly going into solution). - Site is predominantly hardstood; therefore, infiltration is likely to be limited.	
Water and Gas	- Migration through potentially permeable strata and preferential pathways. - Superficial (sand and gravel) is likely to be relatively permeable. - Bedrock (mudstone, siltstone, sandstone) likely to variably permeable.	
Gas	- Migration into buildings (e.g. via services) and accumulation of gases in confined spaces (potentially causing explosion if methane is present).	

Table 5-3: Potential pathways.

[9] EA (2008). "Updated Technical Background to the CLEA Model". Science Report – SC050021/SR3.

5.5 Preliminary Contamination Conceptual Model

The Preliminary Contamination Conceptual Model is illustrated in Table 5-4 and has identified seven generic potential pollutant linkages.

Each linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552[10].

In order to assess the potential risk for each pollutant linkage, an assessment of the magnitude of the potential consequence (severity) of the risk occurring and the magnitude of the probability (likelihood) of the risk occurring has been considered and classified. This is based on the guidance provided in CIRIA C552 and further details including a risk matrix is provided in Appendix E.

Where LKC identified a low to very low risk, targeted or low density intrusive investigation work, a watching brief (during construction work) or no investigation work will be recommended. This will be dependent on the nature of the site and the proposed development.

Where the risk falls into the moderate/low risk, LKC will undertake an assessment to establish what category the pollutant linkage will fall into (i.e. moderate or low risk will be chosen).

Where LKC identifies a moderate or higher risk, intrusive investigation work or precautionary remedial measures will be recommended.

It should be noted that there may be risk from short term exposure from contaminated soil to site workers. The Preliminary Contamination Conceptual Model deals with long term exposure to key receptors. Acute risks can be easily mitigated by good environmental management of the site during site works. Standard health and safety precautions (as per HSE guidance[11]) should be adopted by all workers involved with site enabling and construction works. Therefore, this receptor is not considered in the contamination conceptual model.

[10] CIRIA (2001). “Contaminated Land Risk Assessment: A Guide to Good Practice”. C552.
[11] HSE (1991). “Protection of Workers and the General Public During Development of Contaminated Land”. London HMSO.

PL	Pathway	Receptor	Contaminants of Concern (CoC)	Probability	Consequence	Risk	Recommendations
1	- Dermal contact. - Inhalation of soil, fibres and dust. - Ingestion of soils, dust.. - Windblown dust.	- Future site users. - Offsite receptors.	- ACM.	Likely (given site history, site conditions and proposed end use)	Severe	**High**	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
			- Heavy metals. Pesticides. - PAHs & Petroleum hydrocarbons. - Other inorganic and organic contaminants.	Low Likelihood (given site history, site conditions and proposed end use)	Medium	**Moderate / Low** (moderate assumed until ground conditions confirmed)	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
2	- Inhalation of vapours. - Migration via permeable strata and preferential pathways.	- Future site users. - Offsite receptors.	- Volatile contaminants (TPHCWG, SVOC, VOCs).	Low Likelihood (given site history, site conditions and proposed end use)	Medium	**Low** (low assumed as no significant volatile source anticipated)	Low density intrusive investigation required, to include PID testing. Soil analysis of CoC, subject to ground conditions encountered and PID testing.
3	- Inhalation of gas. - Migration via permeable strata and preferential pathways. - Explosion in confined spaces. - Exposure to radon.	- Future site users. - Buildings. - Offsite land users.	- Ground / hazardous gas (carbon dioxide, methane).	Unlikely (given no viable gas source and limited pathway)	Severe	**Low** (low assumed as no significant source or pathway)	Intrusive investigation to confirm ground conditions. If significant gas source and pathway identified, gas monitoring or gas protection measures required.
			- Radon	Unlikely (as <1% of homes above action level)	Medium	**Low**	(<1%) No protective measures are necessary in the construction of new dwellings or extensions.
4	- Surface run-off. - Migration via permeable strata and preferential pathways. - Perched waters migration.	- Groundwater (Unproductive Aquifer). - Surface water (Open Ditch/drain).	- Mobile contaminants such as metals, PAHs, hydrocarbons, volatile compounds.	Unlikely (no significant mobile contamination and limited pathway)	Medium	**Low**	Targeted intrusive investigation required. Groundwater and surface water sampling, subject to ground conditions encountered. Analysis of CoC.
5	- Sulphate attack on concrete.	- Building structure and retaining structures.	- Sulphate.	Likely (given site history, site conditions, geology and direct contact / pathway)	Mild	**Moderate /** Low (moderate assumed until ground conditions confirmed)	Low density intrusive investigation required. - Soil analysis of CoC, subject to ground conditions encountered.
6	- Ingestion of tainted water supply.	- Future site users. - Water pipes.	- Organic contaminants such as petroleum hydrocarbons, naphthalene, volatile compounds.	Low Likelihood (although some contamination may be present, significant contamination not expected at pipeline depth)	Medium	**Moderate** / Low (moderate risk assumed until ground conditions confirmed)	Low density intrusive investigation required. - Soil analysis of CoC, subject to ground conditions encountered.
7	- Direct contact (plant uptake).	- Flora.	- Phytotoxic contaminants such as heavy metals.	Likely (given site history, site conditions and proposed end use)	Minor	**Low**	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.

Table 5-4: Preliminary Contamination Conceptual Model.
Notes: PL = Pollutant Linkage. Contaminant of Concern (CoC) - See Table 5-1 for contamination sources. Site conditions based on observations during site reconnaissance.

Site Conceptual Model shown on Plate 5-1.

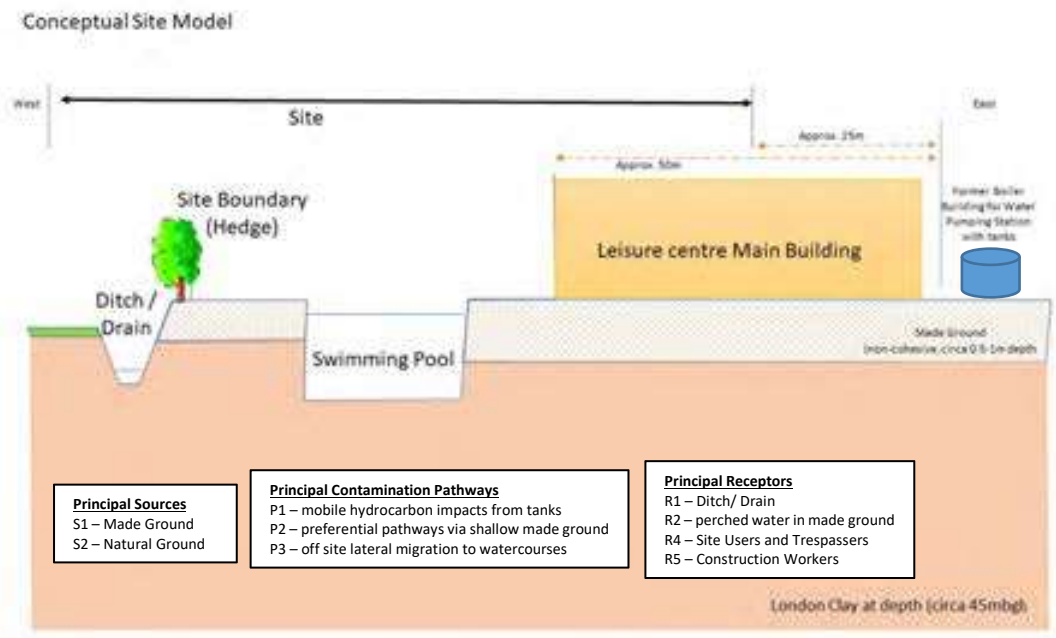


Plate 5-1: Site Conceptual Model.

Historical Site Use and Structures used in Site Conceptual Model shown on Plate 5-2.

Plate 5-2: Historical site uses and structures used in Site Conceptual Model.

6 Preliminary Geotechnical Risk Assessment

Table 6-1 summarises the possible geotechnical constraints of the site, based on the site history, environmental settings and site reconnaissance. Investigation work will be required to confirm the risks and provide a detailed geotechnical assessment and foundation design.

Slope Stability	Site is relatively flat. No significant slope stability risk anticipated. No further assessment required.
Envirocheck Ground Stability Hazards	Moderate Risk identified for Shrinking / Swelling Clay. Further action required (see below).
Made Ground	Unknown depth and constituent of made ground across the site. Initial information indicates relatively shallow made ground. Possible in-ground structures from previous developments. Unlikely to be a suitable founding strata unless engineering work is undertaken.
Field boundaries	Possible former hedges / trees / ditch resulting in increased likelihood of roots, organic material, shallow made ground.
Superficial	None recorded.
Bedrock	Possible shallow bedrock below the site. Strength and extent of weathering unknown. Likely to be a suitable founding strata. May cause difficulty if any deep excavations are required.
Groundwater	Unknown depth and variability of groundwater. Shallow groundwater can also affect construction works.
Plasticity	Plasticity of clay deposits should be confirmed, particularly where trees are present or proposed, to identify the shrink / swell risk. Clay recorded on site.
Sulphate	Unknown sulphate content of the made ground and natural. Anticipated strata below the site is a sulphate bearing strata.
Flood Risk / Sustainable Drainage	Existing drain on the western boundary will need to be maintained beneath the proposed sunning hard landscaping area.
Road / Pavement Design	Unknown CBR values for footpath and road design.

Table 6-1: Summary of geotechnical constraints.

7 Summary Conclusions and Recommendations

7.1 Summary Conclusions

Table 7-1 summarises the site details, historical review, environmental settings and site reconnaissance.

Current Site Use	Existing Leisure Centre with large open grassed area to north and west of the existing structure.
Proposed Development	Commercial building with soft landscaping. Extensions to existing David Lloyd Health and Fitness Club for new Spa extension and garden facility and extension of existing external pool terrace.
Main Historical Features	Onsite: open fields, former swimming pool, leisure centre, drain on west boundary and former Norton Light Railway cuts across top NE corner of extension site. Surrounding Area: fields, pumping station, boiler house with tanks, London County Asylum, railway sidings.
Geology / Hydrogeology	Artificial: shallow made ground indicated on historical borehole logs. Superficial: None indicated by BGS records. Bedrock: London Clay. Unproductive Aquifer.
Landfills / Infilled ground	No recorded landfills. Potentially shallow made ground identified.
Site walkover	Relevant features identified on site are summarised below: • The proposed extension sites are around the main outside pool and to the northwest of the main leisure centre building. • The proposed extension areas are generally soft landscape and grassed, with the most northeast are hardstanding and used current for storage of materials and equipment. • No access restrictions although access is through a security gate and barrier to the main site. • No evidence of contamination identified.

Table 7-1: Summary of site details, historical review, environmental settings and site reconnaissance.

A preliminary contamination conceptual model has been produced by LKC, which is summarised in Table 7-2.

Pollutant Linkage		Risk	Recommendations
PL1: Contaminants posing a risk to future site users via dermal contact, ingestion and inhalation (of soil, dust, fibres and vegetables).	ACM, heavy metals, PAHs	**High**	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
	Petroleum hydrocarbons Pesticides	**Moderate** / Low	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
PL2: Volatile contaminants posing a risk to future site users via the inhalation of vapours.		**Low** (low assumed as no significant volatile source anticipated)	Low density intrusive investigation required, to include PID testing. Soil analysis of CoC, subject to ground conditions encountered and PID testing.
PL3: Gas posing a risk to buildings and future site users via the migration of gas into building causing explosion and asphyxiation.	Carbon dioxide & methane	**Low** (low assumed as no significant source or pathway)	Intrusive investigation to confirm ground conditions. If significant gas source and pathway identified, gas monitoring or gas protection measures required.
	Radon	**Low**	(<1%) No protective measures are necessary in the construction of new dwellings or extensions.

Pollutant Linkage	Risk	Recommendations
PL4: Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	**Low**	Targeted intrusive investigation required. Groundwater and surface water sampling, subject to ground conditions encountered. Analysis of CoC.
PL5: Sulphate posing a risk to building via direct contact (sulphate attack).	**Moderate /** Low	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
PL6: Organic contaminants posing a risk to water pipes.	**Moderate** / Low	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
PL7: Phytotoxic metals posing a risk to flora via root uptake.	**Low**	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.

Table 7-2: Summary risk table.
Where moderate / low risk had been identified, the assumed risk is shown in bold.

A preliminary geotechnical assessment has been carried out by LKC. Table 7-3 summarises the geotechnical constraints.

Slope Stability	Site is relatively flat. No significant slope stability risk anticipated. No further assessment required.
Envirocheck Ground Stability Hazards	Moderate Risk identified for Shrinking / Swelling Clay. Further action required (see below).
Made Ground	Unknown depth and constituent of made ground across the site. Initial information indicates relatively shallow made ground. Possible in-ground structures from previous developments. Unlikely to be a suitable founding strata unless engineering work is undertaken.
Field boundaries	Possible former hedges / trees / ditch resulting in increased likelihood of roots, organic material, shallow made ground.
Superficial	None recorded.
Bedrock	Possible shallow bedrock below the site. Strength and extent of weathering unknown. Likely to be a suitable founding strata. May cause difficulty if any deep excavations are required.
Groundwater	Unknown depth and variability of groundwater. Shallow groundwater can also affect construction works.
Plasticity	Plasticity of clay deposits should be confirmed, particularly where trees are present or proposed, to identify the shrink / swell risk. Clay recorded on site.
Flood Risk / Sustainable Drainage	Existing drain on the western boundary will need to be maintained beneath the proposed sunning hard landscaping area.
Sulphate	Unknown sulphate content of the made ground and natural. Anticipated strata below the site is a sulphate bearing strata.
Road / Pavement Design	Unknown CBR values for footpath and road design.

Table 7-3: Summary of geotechnical constraints.

7.2 Recommendations

Recommendations are provided in Table 7-4.

Contamination status	Given the risks identified in the conceptual model, further assessment is required on the potential contaminative status of the site to allow approval of a planning application, based on the proposed end use detailed in the PRA.
Further assessment recommendations	Phase 2 intrusive investigation required. Phase 2 investigation to be carried out in line with current guidance, including BS10175[12], BS5930[13] CIRIA C665[14], RB17[15] and BS8485[16]. Targeted investigation locations in areas of concern (contamination and geotechnical). To be agreed with the local authority.
Type of investigation work	Boreholes and / or trial pits.
PL 1, 2, 5, 6, 7	Intrusive investigation work recommended to confirm ground conditions across the site. Testing of contaminants of concern based on preliminary conceptual model and field observations (PID tests and visual / olfactory evidence). The BGS historical logs included in this report, reference asbestos being encountered within the shallow made ground.
PL 3	Intrusive investigation to confirm ground conditions. If significant gas source and pathway identified, gas monitoring or gas protection measures required. Gas monitoring: monitoring wells to be installed in boreholes, monitoring frequency and period subject to anticipated risk.
PL 4	Groundwater and surface water sampling, subject to ground conditions encountered. Surface water samples to be collected from the watercourse. A minimum of 3no. samples to be collected (upstream, midstream and downstream).
Reporting	Information from the above can be used to carry out a contamination and geotechnical assessment and provide a remediation strategy for the site.
Importation of soils	Any topsoil or subsoil brought on to the site for use in gardens / soft landscaping should be suitably chemically validated prior to its use on site, according to Local Authority guidance.

Table 7-4: Recommendations.

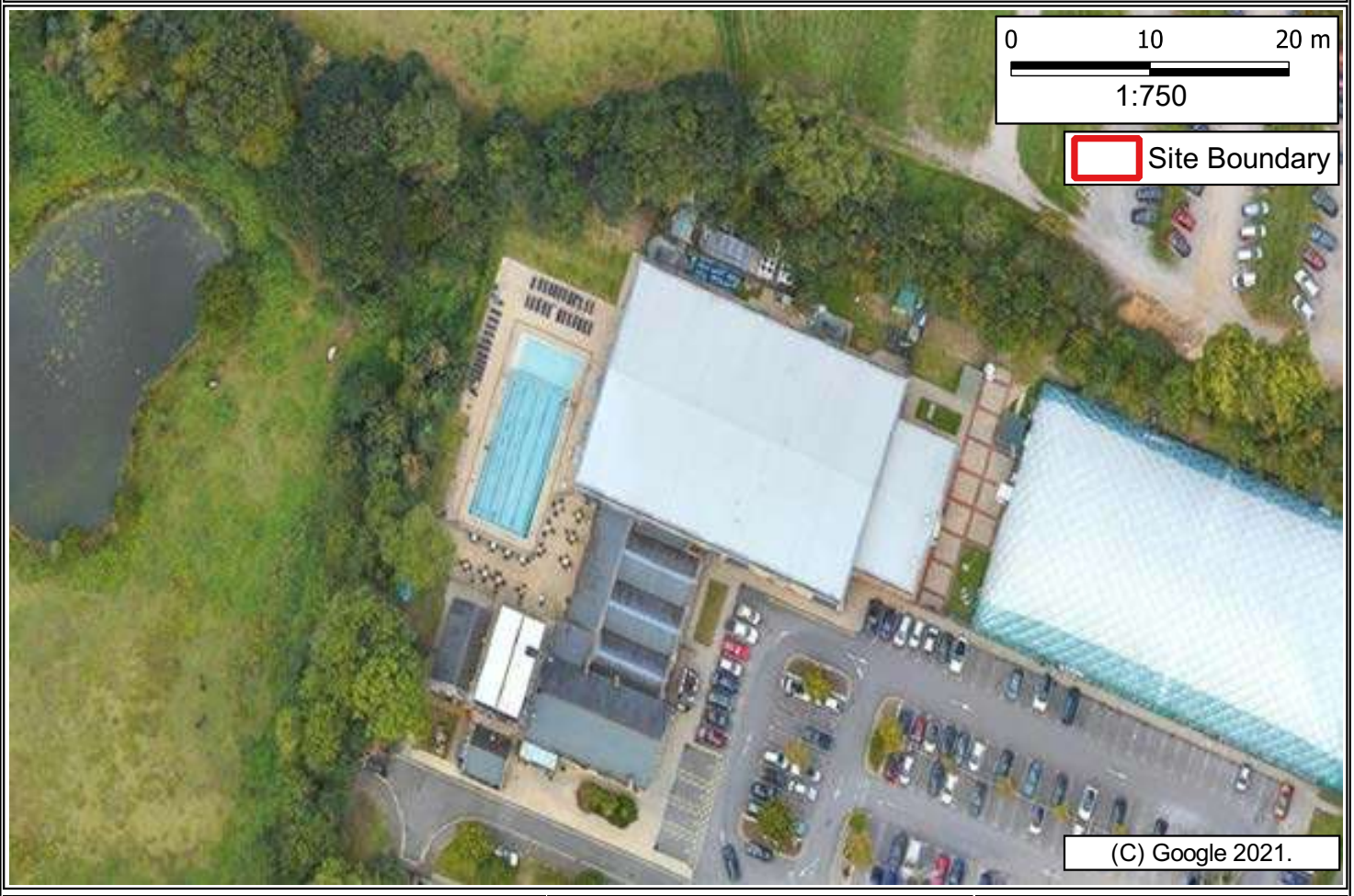
Further Considerations are summarised in Table 7-5.

Flood Risk / Sustainable Drainage	Existing drain on the western boundary will need to be maintained beneath the proposed sunning hard landscaping area.
Asbestos	The BGS historical logs included in this report reference asbestos have indicated that asbestos may be encountered within the shallow made ground, as identified during the main construction of the leisure centre.

Table 7-5: Further considerations.

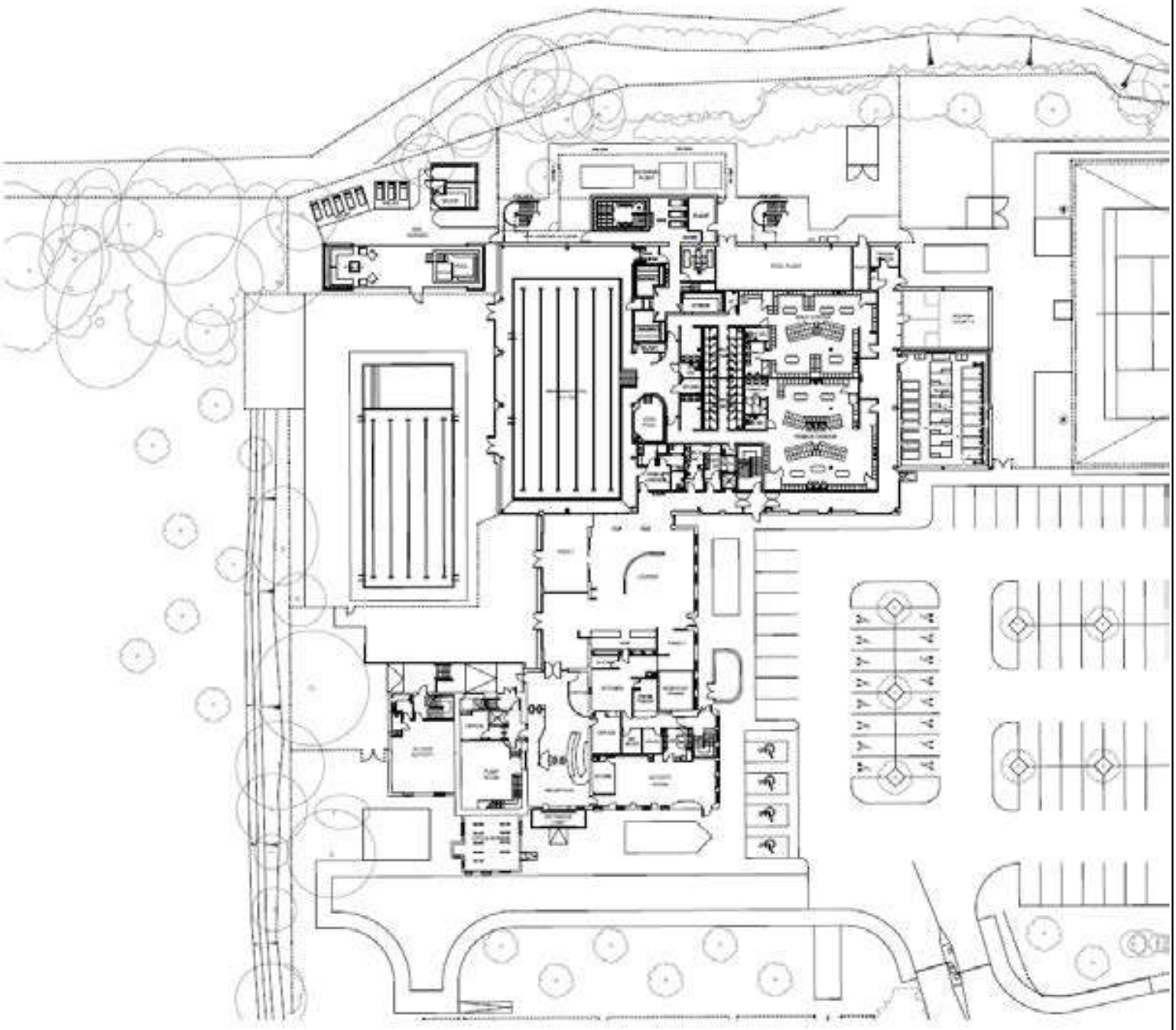
[12] British Standard (2017). "Investigation of Potentially Contaminated Sites – Code of Practice". BS10175:2017.
[13] British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.
[14] CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings". CIRIA C665.
[15] CL:AIRE Research Bulletin RB17 (November 2012) "A Pragmatic Approach to Ground Gas Risk Assessment".
[16] BSI (2015). "Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings"." BS8485:2015.

Figures



Client: Francis Bradshaw Partnership LLP		Title: Site Location & Boundary Plan	
Site: Horton Lane, Epsom, KT19 8PL			
Job No.: LKC 21 5152	Drawn By: ID / Checked By: ID / Drawn: Dec 2021	Scale (see scale bar): 1:2,500 & 1:750 @ A4	Figure: 1 / Revision:

LK CONSULT



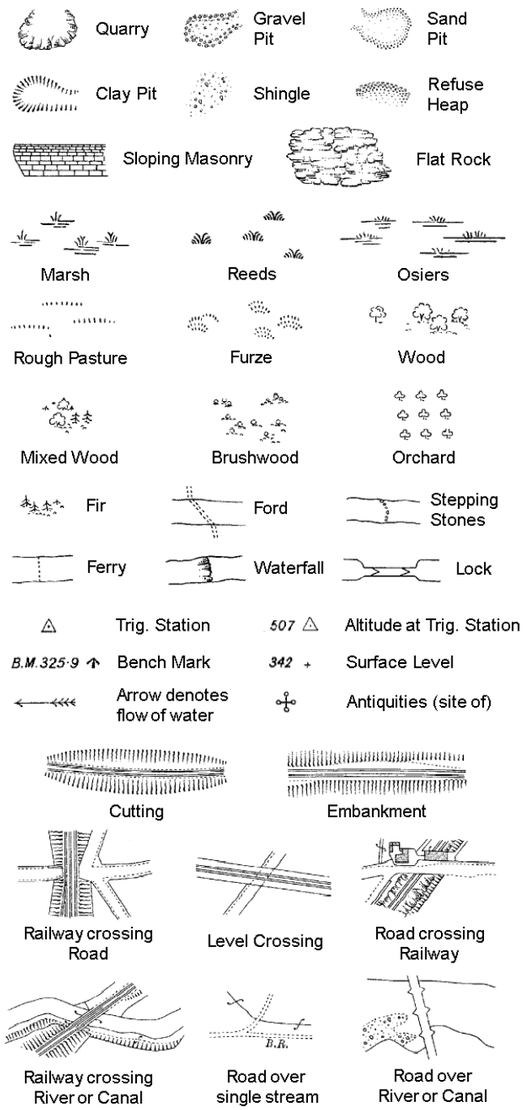
Client: Francis Bradshaw Partnership LLP				Title: Site Boundary Plan and Pitch Development Plan	LKC CONSULT
Site: Horton Lane, Epsom, KT19 8PL				Scale (see scale bar): N.T.S.	Figure: 2
Job No.: LKC 21 5152	Drawn By: ID	Checked By: ID	Drawn: Dec 2021		Revision:

Appendix A

Historical Maps

Historical Mapping Legends

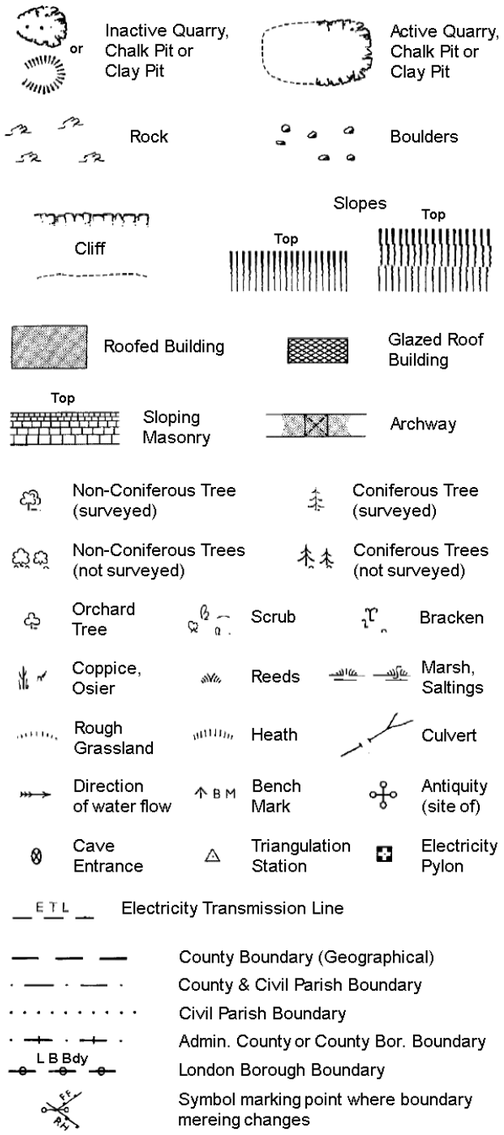
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)

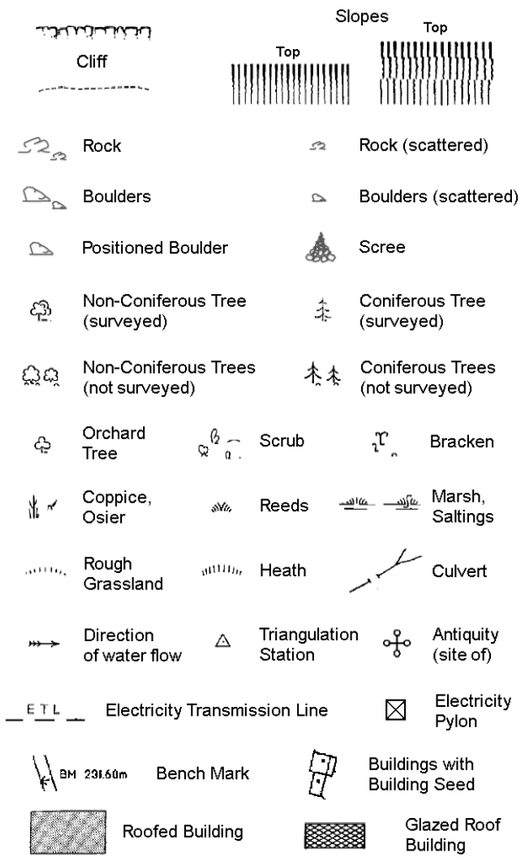
B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



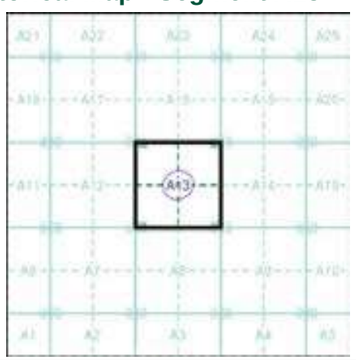
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

LK GROUP

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Surrey	1:2,500	1868 - 1884	2
Surrey	1:2,500	1869	3
Surrey	1:2,500	1895 - 1896	4
Surrey	1:2,500	1913	5
Surrey	1:2,500	1934	6
Ordnance Survey Plan	1:1,250	1953 - 1955	7
Ordnance Survey Plan	1:2,500	1954 - 1971	8
Ordnance Survey Plan	1:2,500	1971	9
Additional SIMs	1:1,250	1972	10
Supply of Unpublished Survey Information	1:1,250	1973	11
Additional SIMs	1:2,500	1990	12
Large-Scale National Grid Data	1:1,250	1992	13
Large-Scale National Grid Data	1:2,500	1992	14
Large-Scale National Grid Data	1:2,500	1992	15
Large-Scale National Grid Data	1:1,250	1992	16
Large-Scale National Grid Data	1:2,500	1995	17
Historical Aerial Photography	1:2,500	1999	18

Historical Map - Segment A13



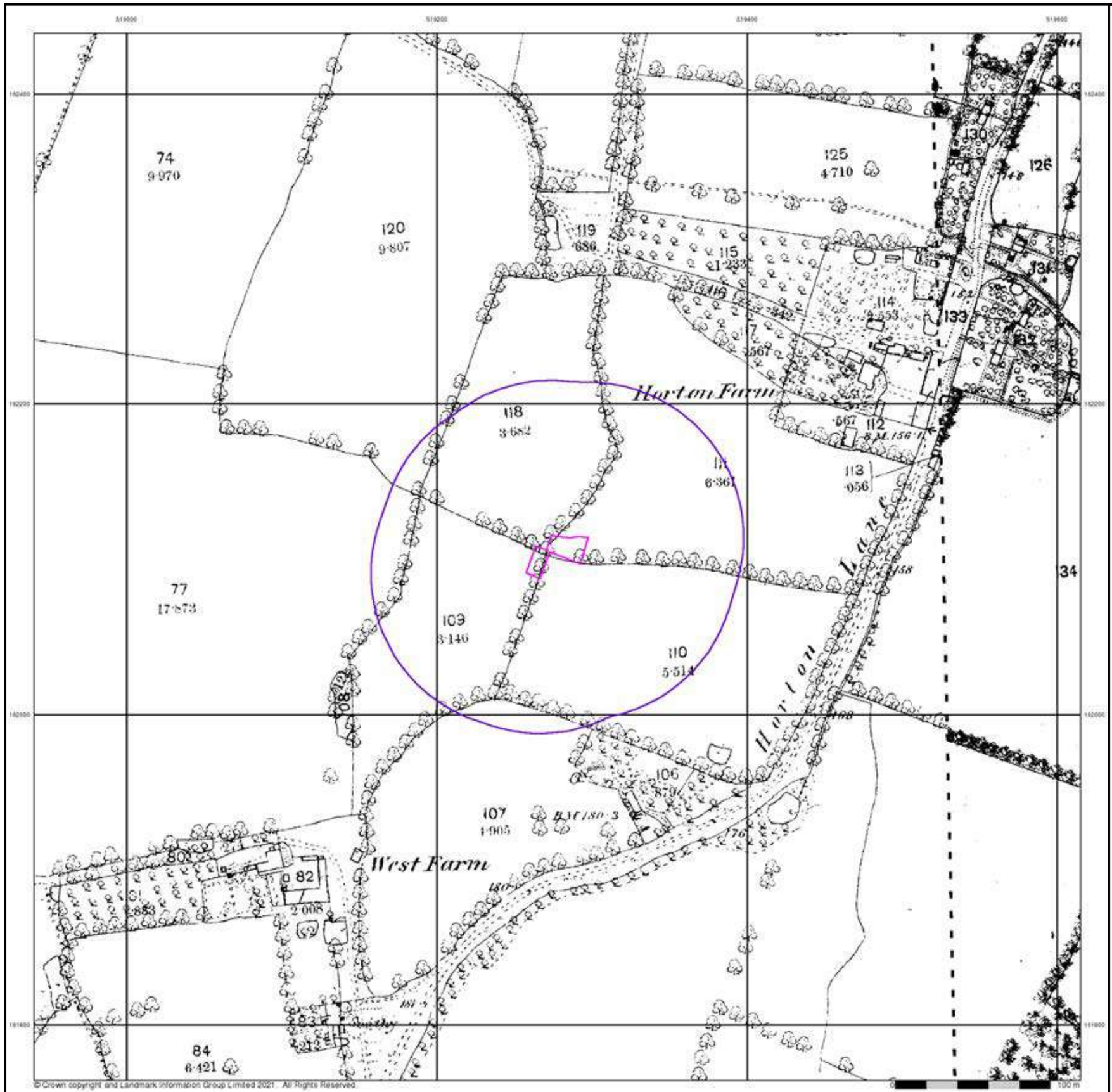
Order Details

Order Number: 288834020_1_1
Customer Ref: LKC 21 5152
National Grid Reference: 519280, 162100
Slice: A
Site Area (Ha): 0.05
Search Buffer (m): 100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LKC GROUP

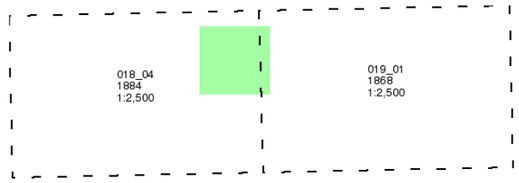
Surrey

Published 1868 - 1884

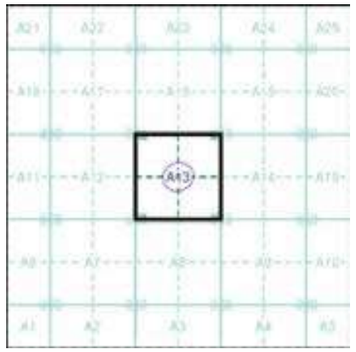
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



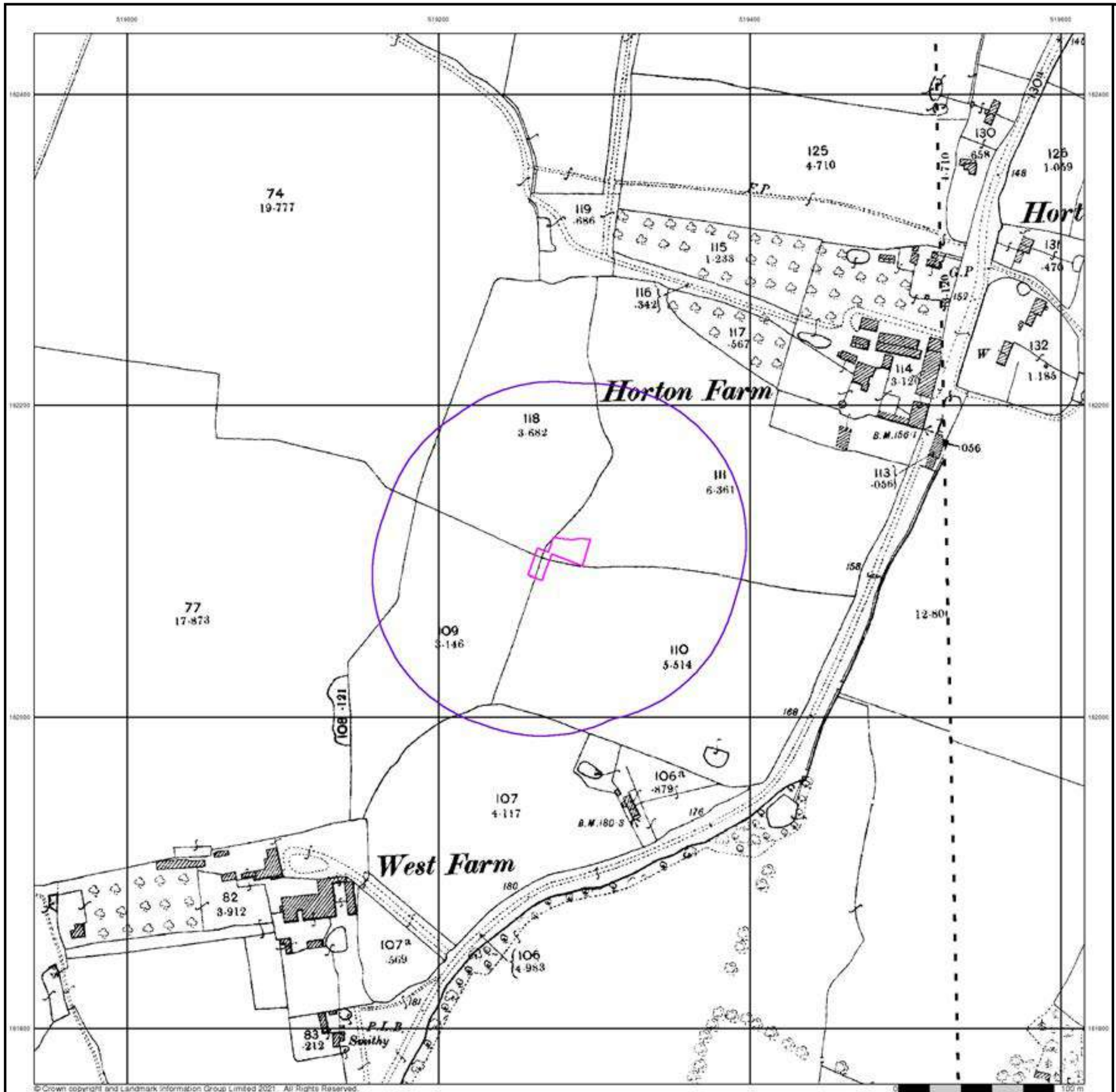
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LK GROUP

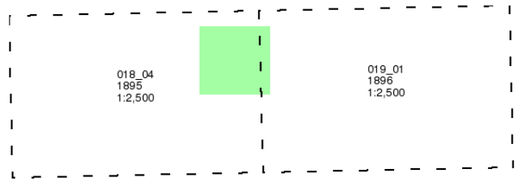
Surrey

Published 1895 - 1896

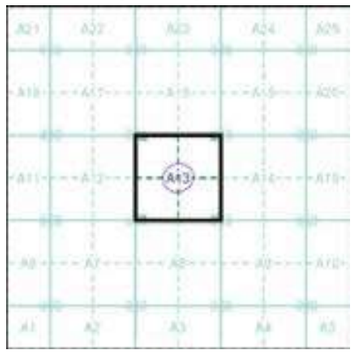
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

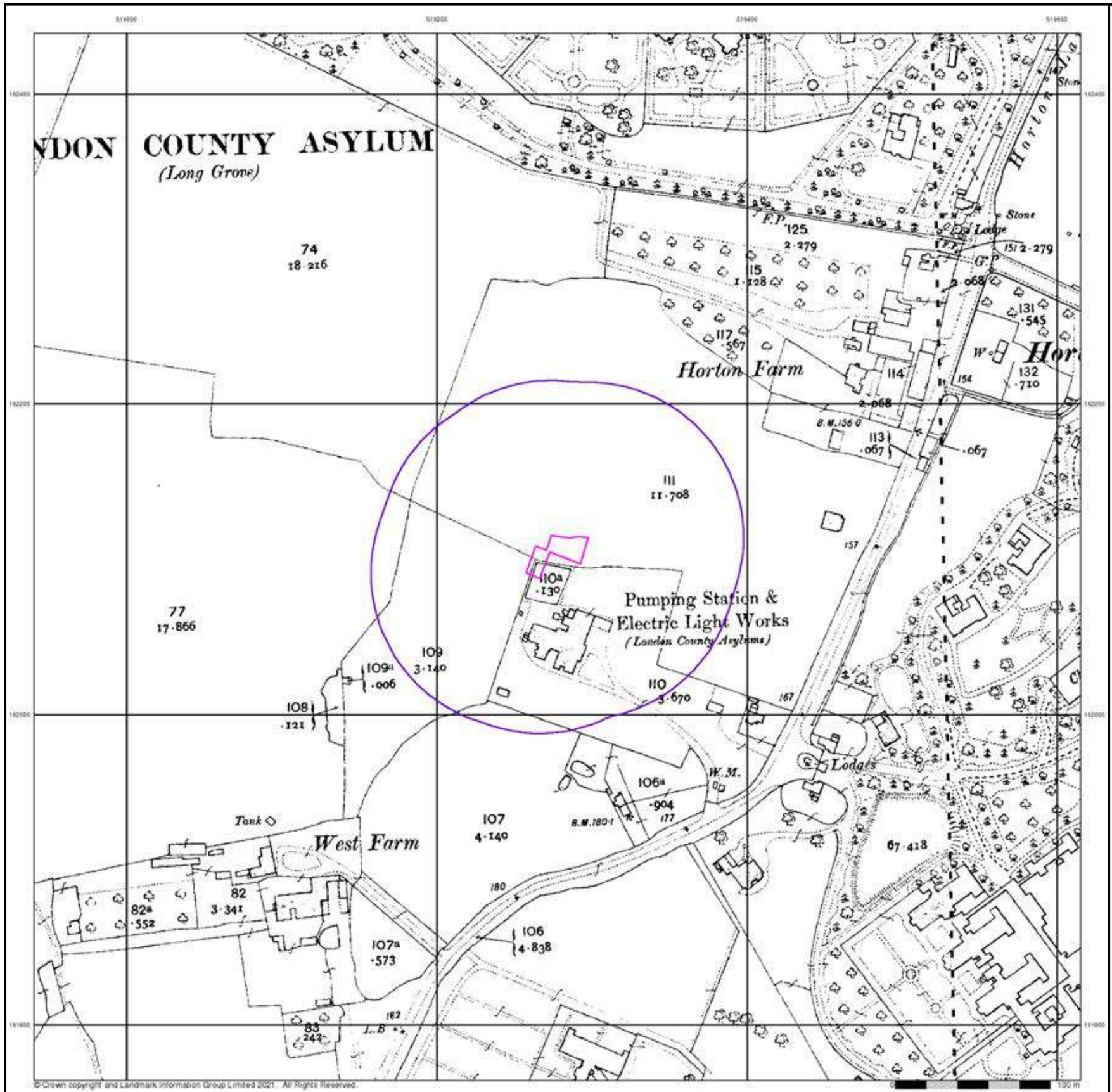


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

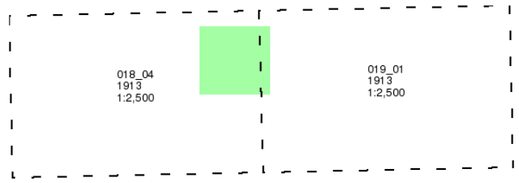
Surrey

Published 1913

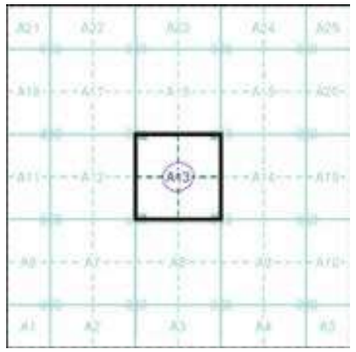
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



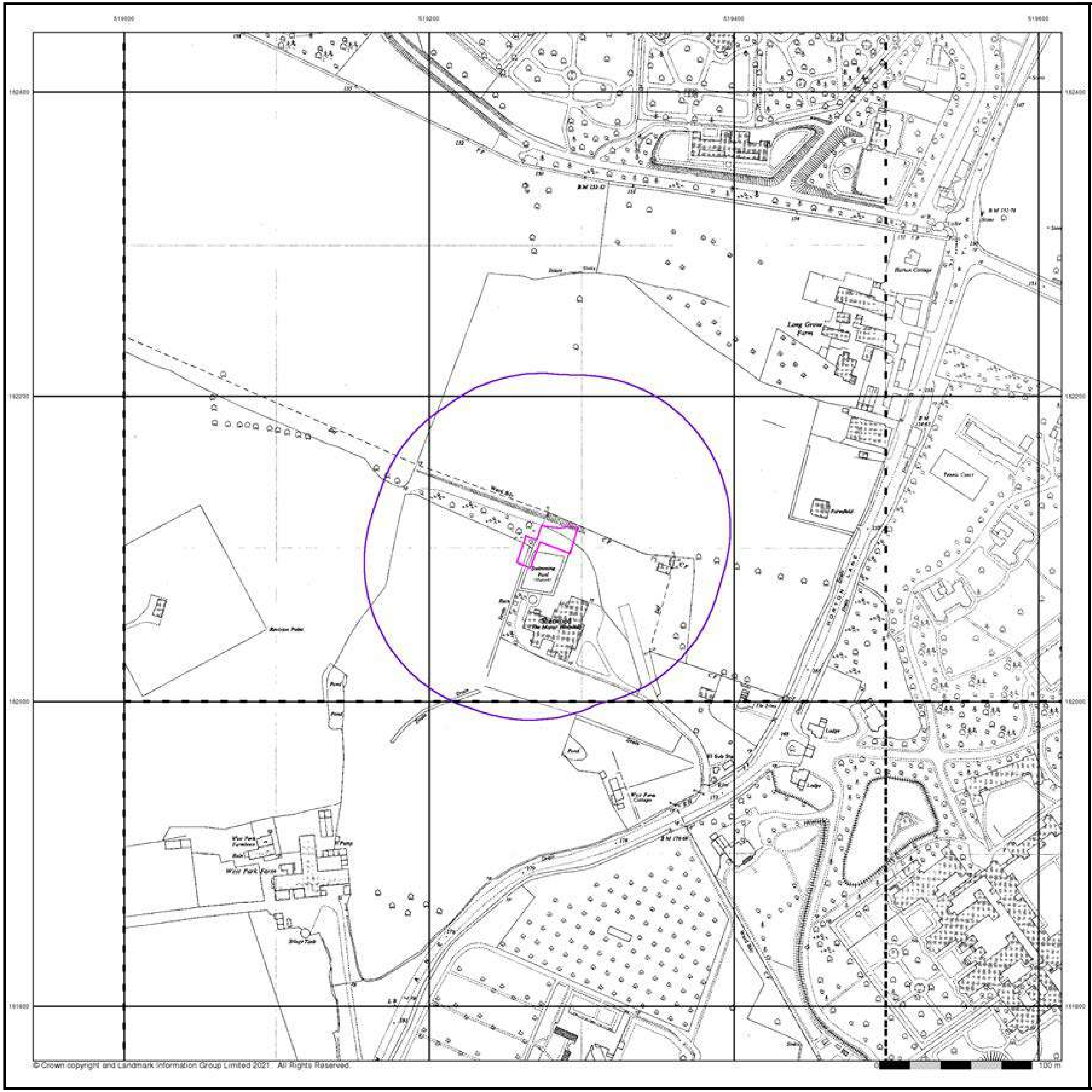
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Ordnance Survey Plan

Published 1953 - 1955

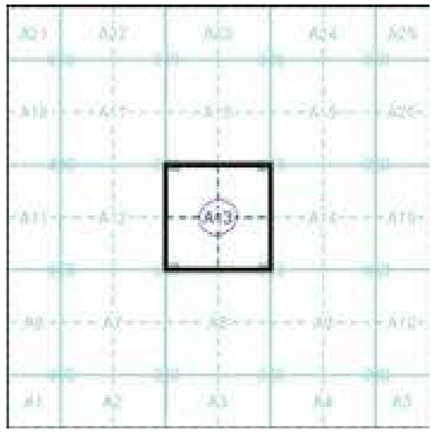
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

TQ1962SW 1955 1:1,250	TQ1962SE 1955 1:1,250
TQ1961NW 1953 1:1,250	TQ1961NE 1953 1:1,250

Historical Map - Segment A13



Order Details

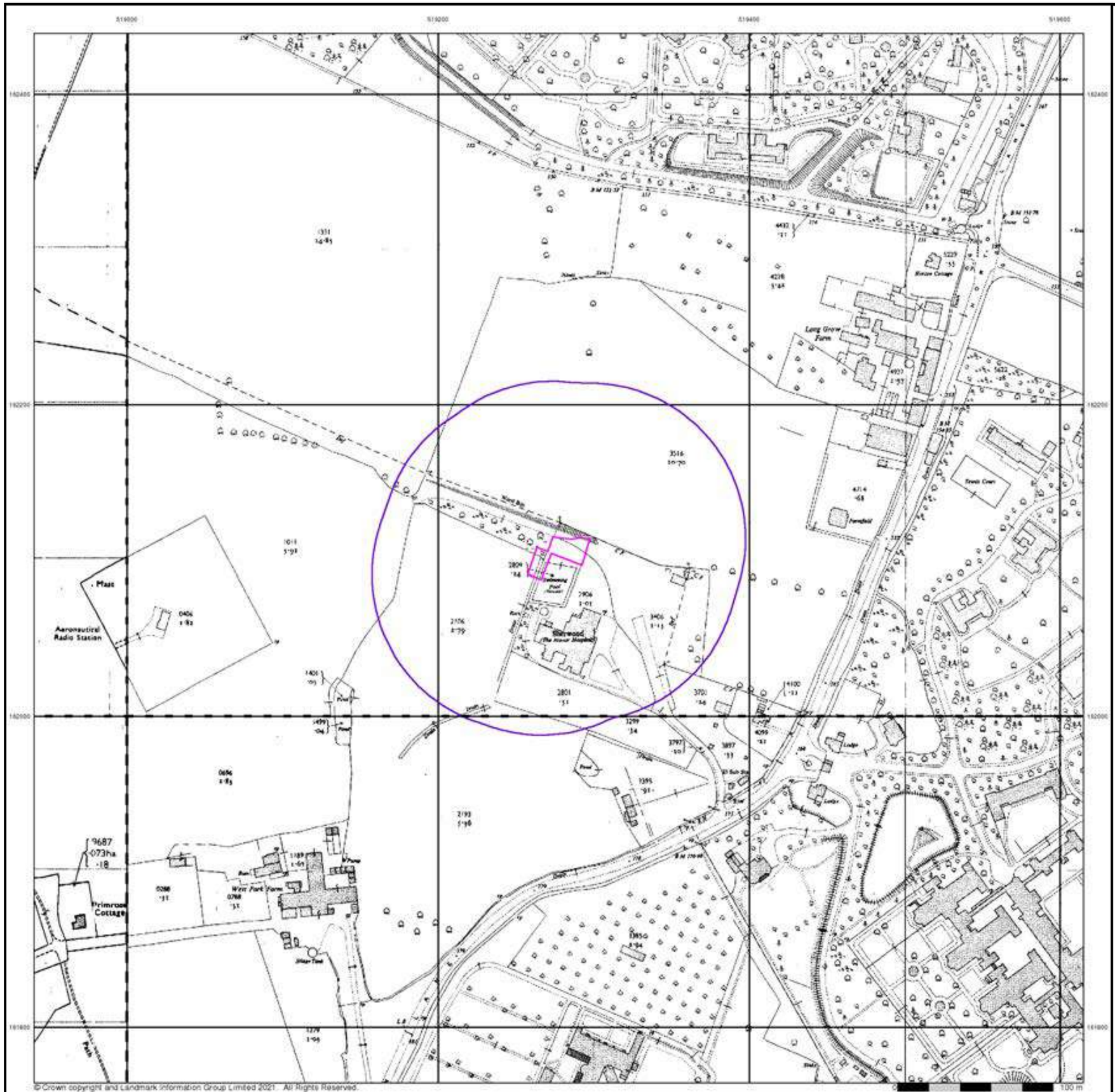
Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LKC GROUP

Ordnance Survey Plan

Published 1954 - 1971

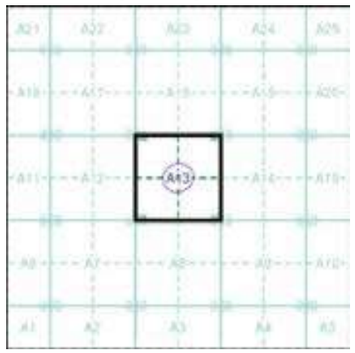
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

TQ1862 1971 1:2,500	TQ1962 1955 1:2,500
TQ1861 1971 1:2,500	TQ1961 1954 1:2,500

Historical Map - Segment A13



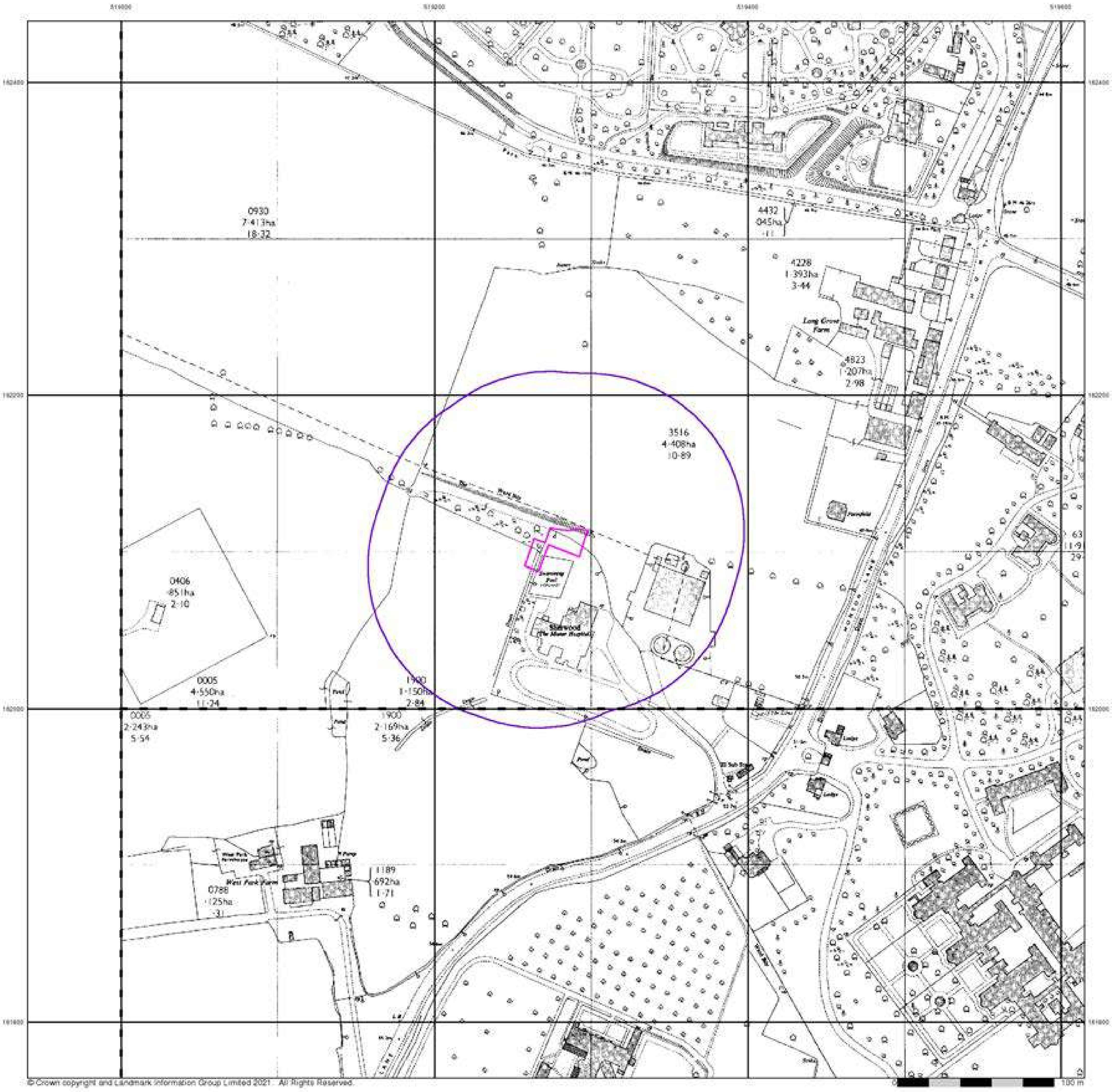
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



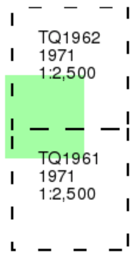
Ordnance Survey Plan

Published 1971

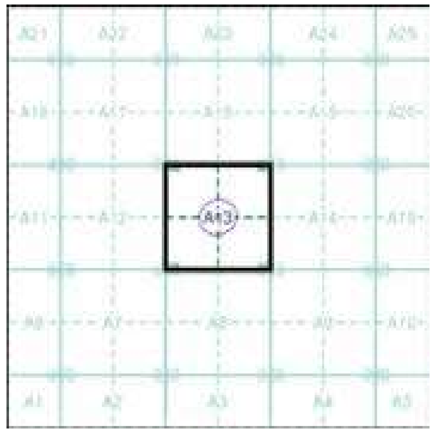
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



N

Order Details

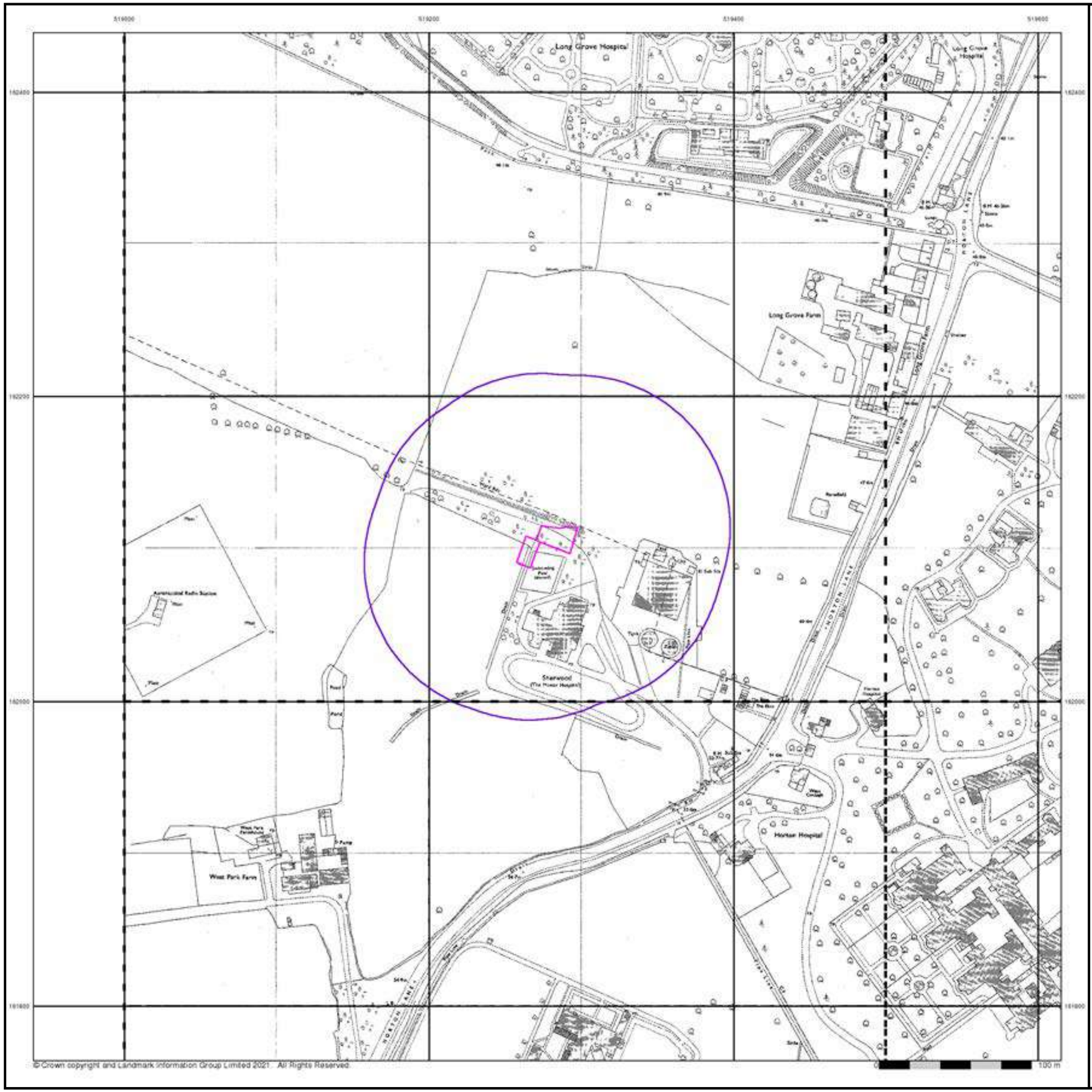
Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP

Tel:	0844 844 9952
Fax:	0844 844 9951
Web:	www.envirocheck.co.uk



LK GROUP

Additional SIMs

Published 1972

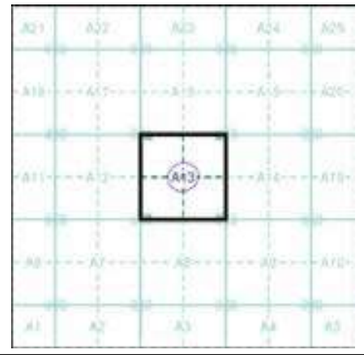
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

TQ1962SW 1972 1:1,250	TQ1962SE 1972 1:1,250
TQ1961NW 1972 1:1,250	TQ1961NE 1972 1:1,250

Historical Map - Segment A13



Order Details

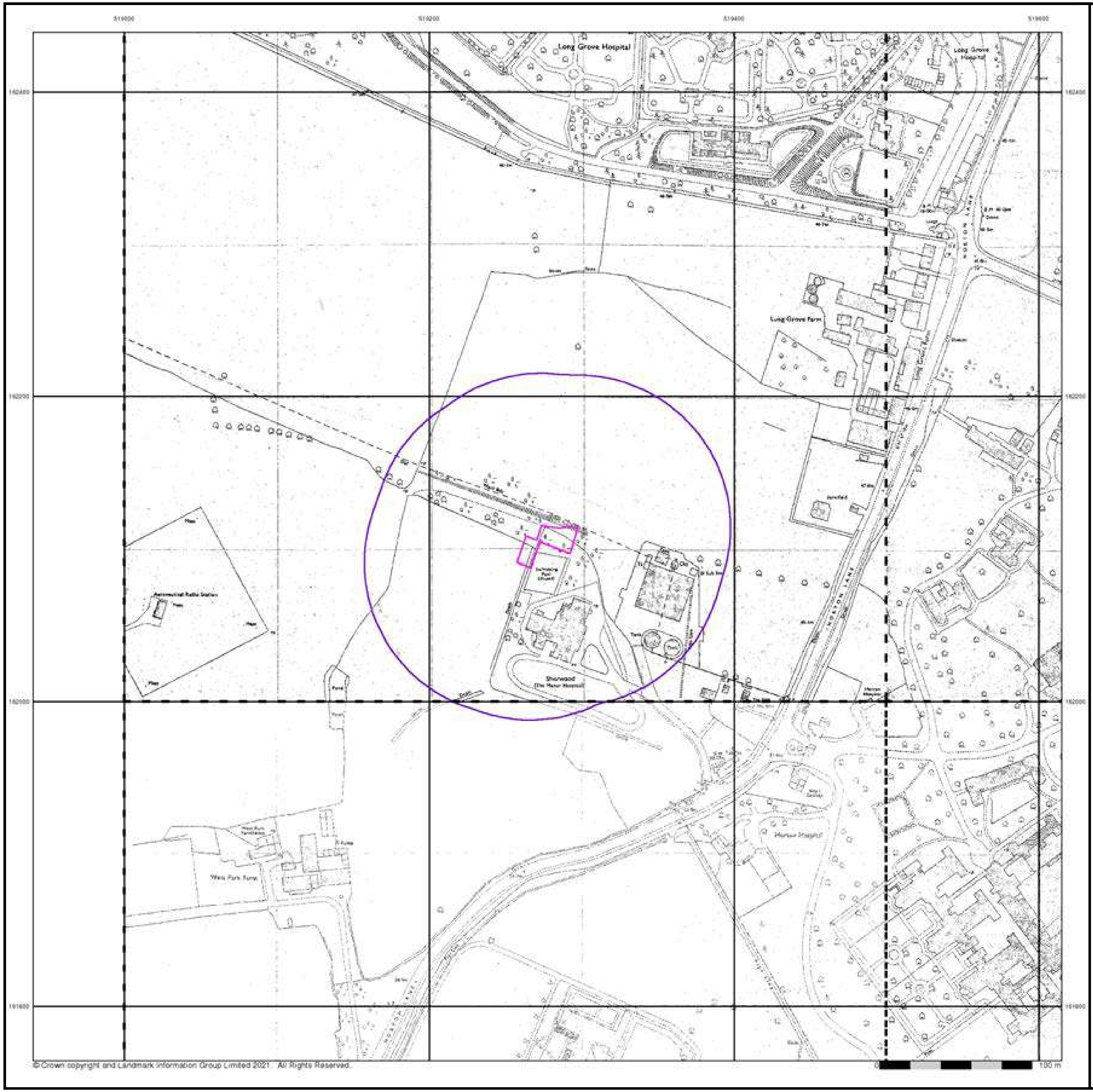
Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

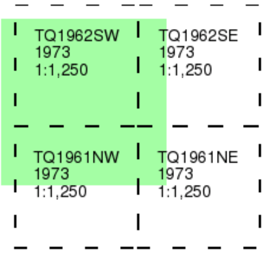
Supply of Unpublished Survey Information

Published 1973

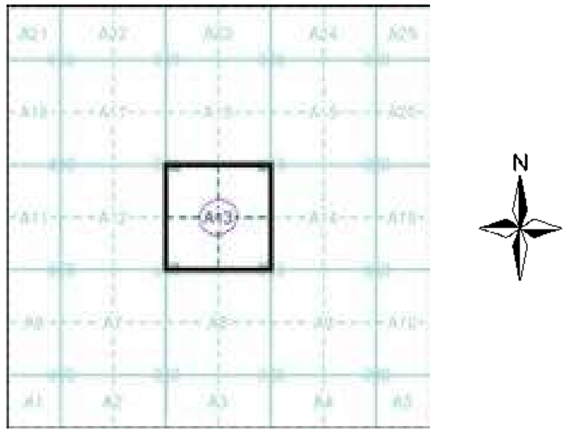
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a `work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

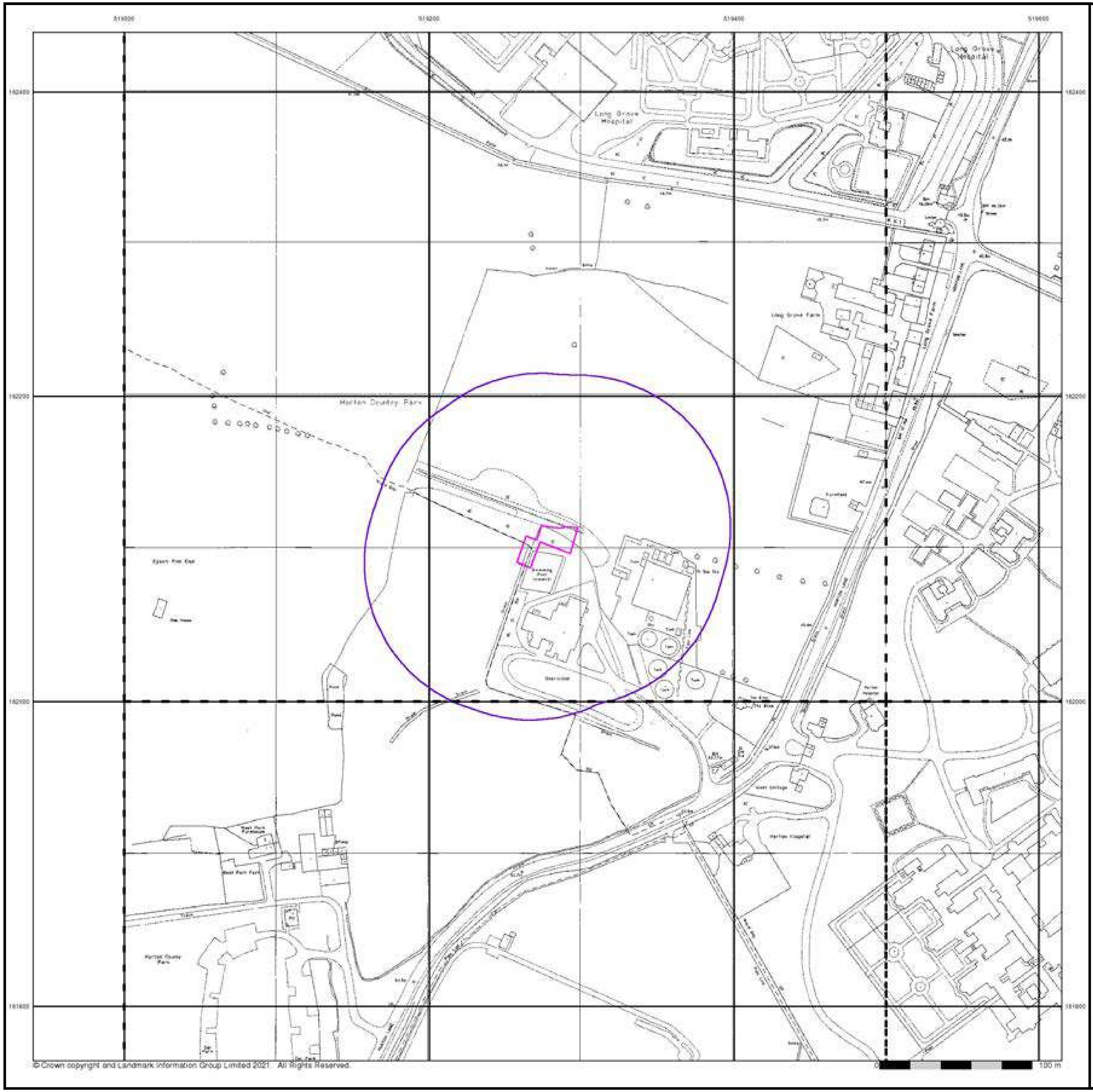


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

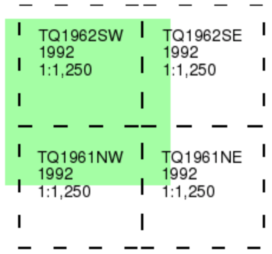
Large-Scale National Grid Data

Published 1992

Source map scale - 1:1,250

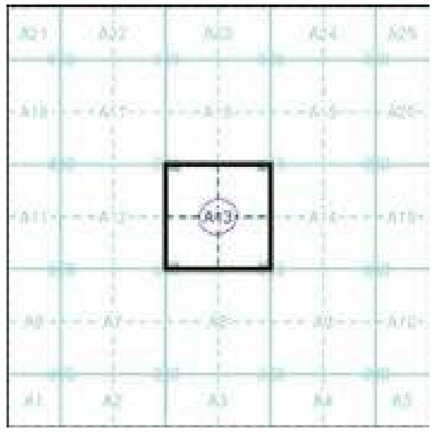
'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



TQ1962SW 1992 1:1,250	TQ1962SE 1992 1:1,250
TQ1961NW 1992 1:1,250	TQ1961NE 1992 1:1,250

Historical Map - Segment A13



Order Details

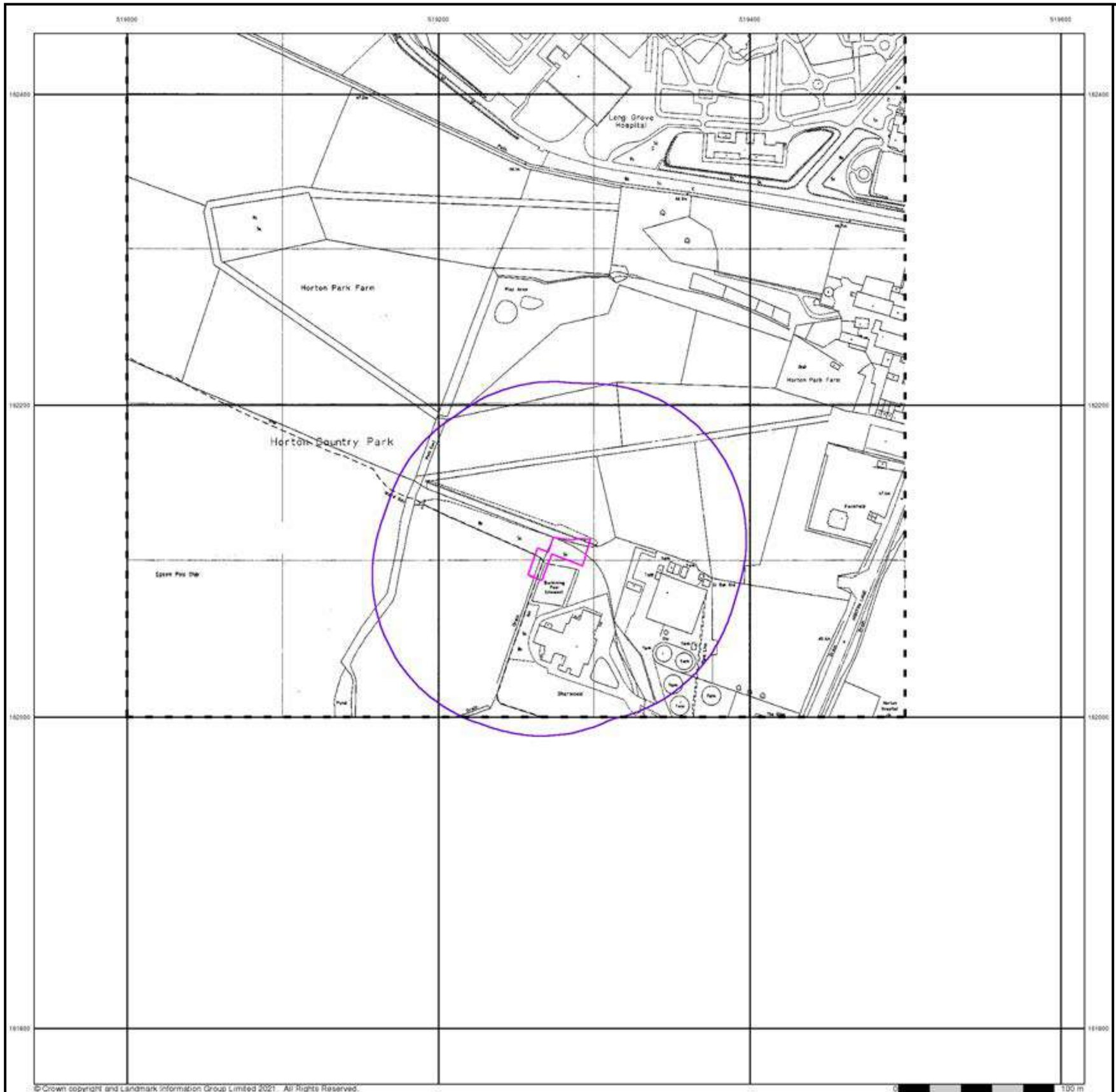
Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP

Tel:	0844 844 9952
Fax:	0844 844 9951
Web:	www.envirocheck.co.uk



LKC GROUP

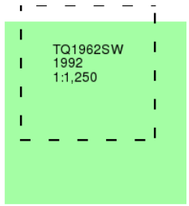
Large-Scale National Grid Data

Published 1992

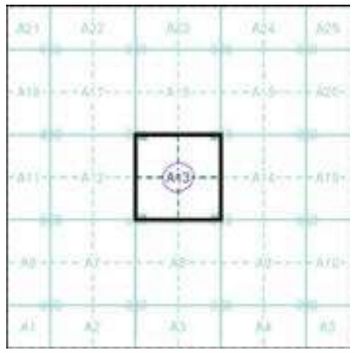
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



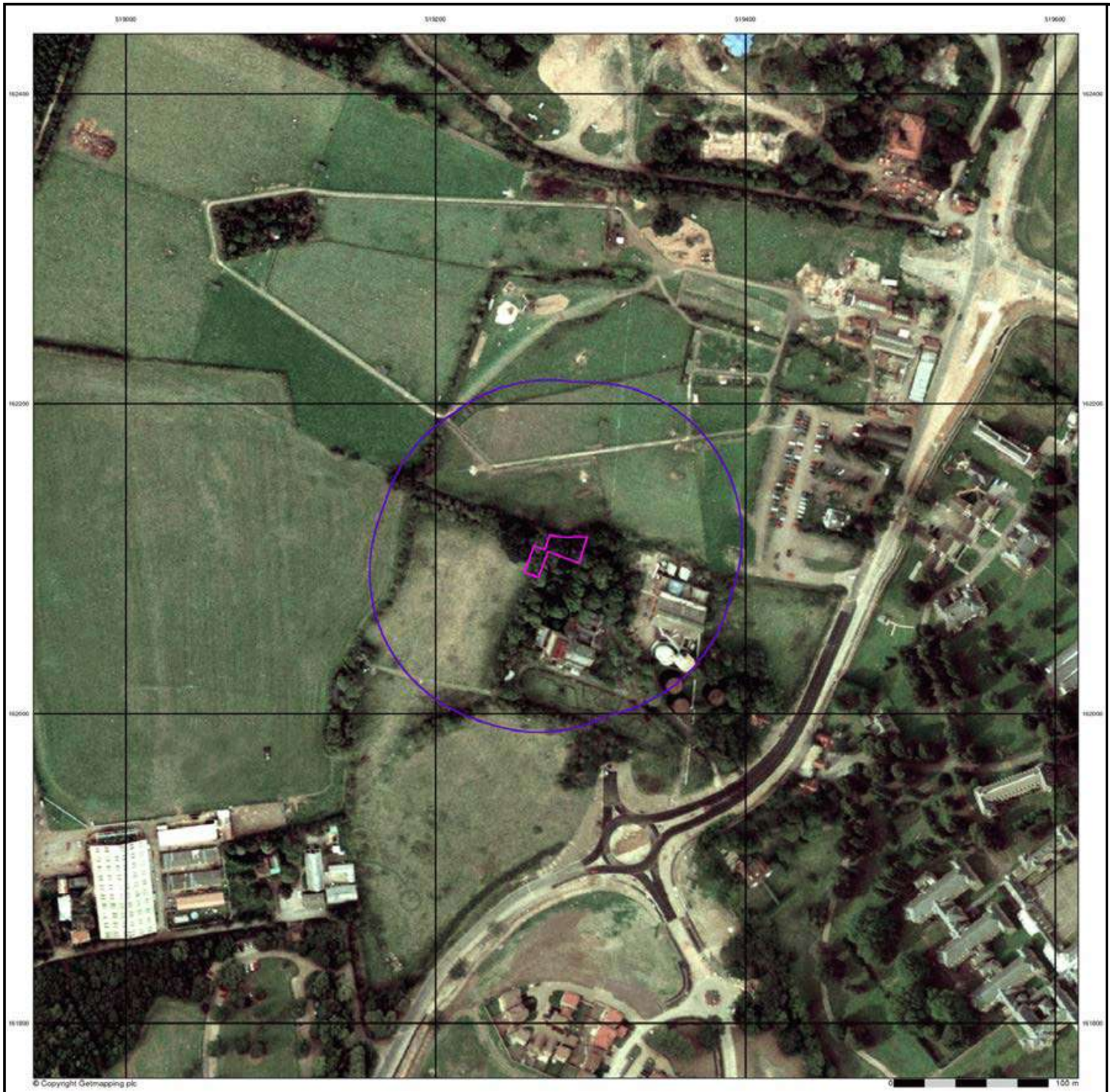
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



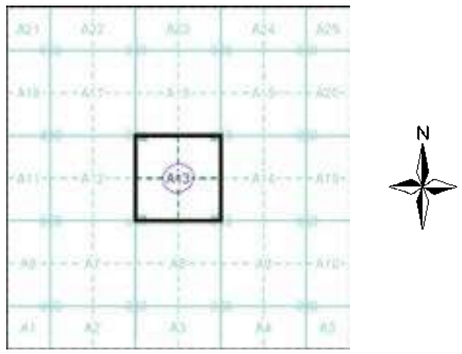
LKC GROUP

Historical Aerial Photography

Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Pylon
Sloping Masonry
Pole
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

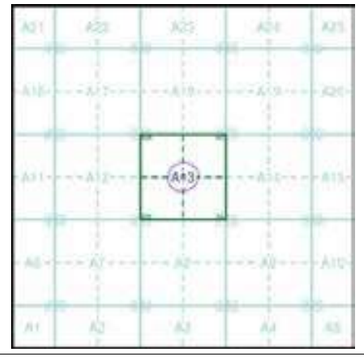
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHWS Mean high water (springs)
MLWS Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

LKC GROUP

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Surrey	1:10,560	1871	3
Surrey	1:10,560	1896 - 1897	4
Surrey	1:10,560	1914 - 1915	5
Surrey	1:10,560	1915 - 1916	6
Surrey	1:10,560	1932 - 1933	7
Surrey	1:10,560	1938	8
Surrey	1:10,560	1938	9
Historical Aerial Photography	1:10,560	1948	10
Ordnance Survey Plan	1:10,000	1962	11
Ordnance Survey Plan	1:10,000	1965	12
Ordnance Survey Plan	1:10,000	1974 - 1975	13
Ordnance Survey Plan	1:10,000	1983	14
London	1:25,000	1985	15
Ordnance Survey Plan	1:10,000	1992	16
10K Raster Mapping	1:10,000	1999	17
10K Raster Mapping	1:10,000	2006	18
VectorMap Local	1:10,000	2021	19

Historical Map - Slice A



Order Details

Order Number: 288834020_1_1
Customer Ref: LKC 21 5152
National Grid Reference: 519280, 162100
Slice: A
Site Area (Ha): 0.05
Search Buffer (m): 1000

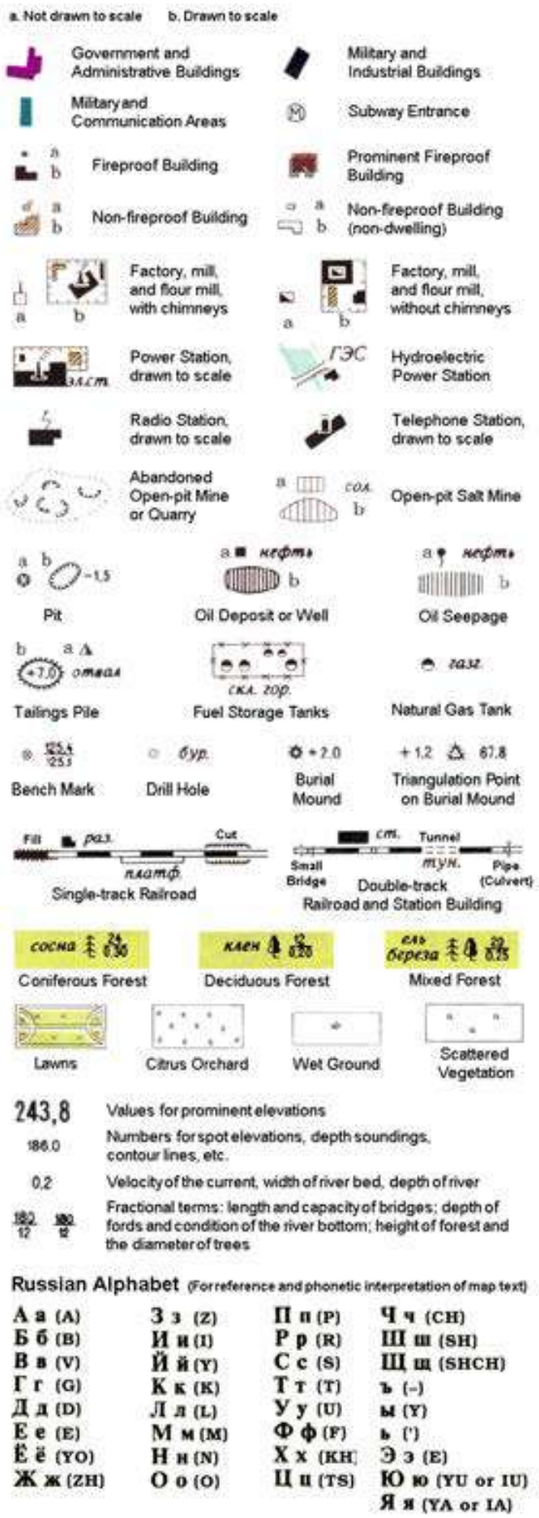
Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Russian Military Mapping Legends

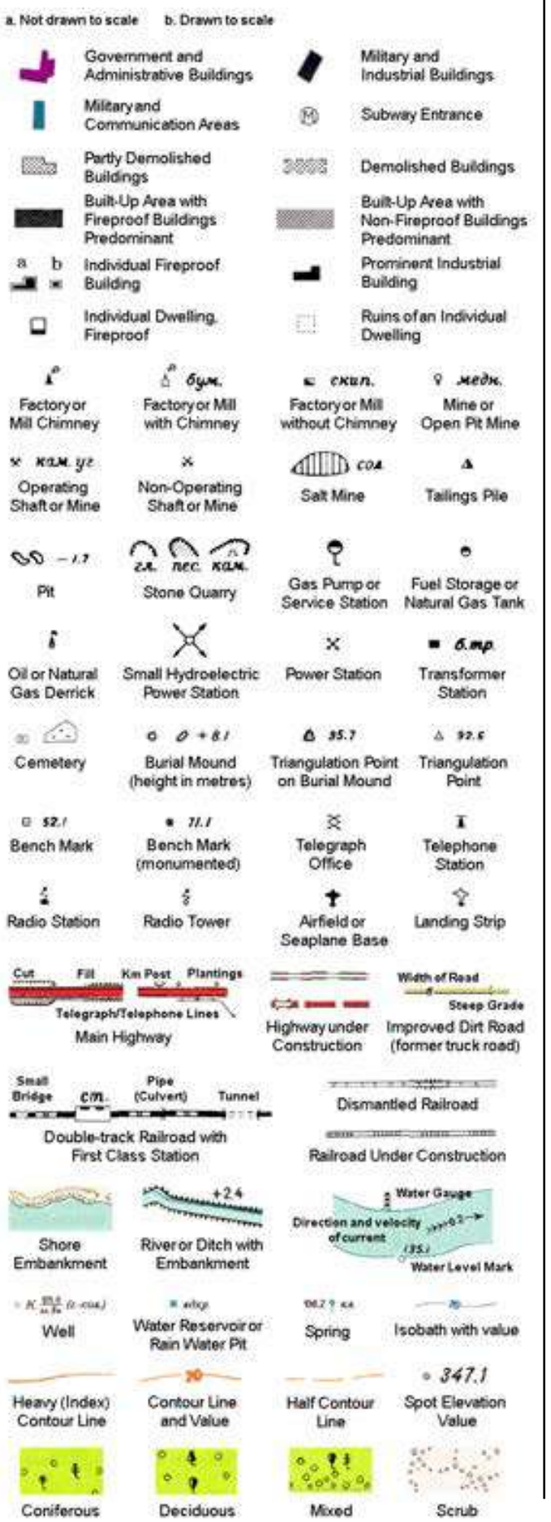
1:5,000 and 1:10,000 mapping



Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	ъ (-)
Д д (D)	Л л (L)	У у (U)	ы (Y)
Е е (E)	М м (M)	Ф ф (F)	ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping



Key to Numbers on Mapping

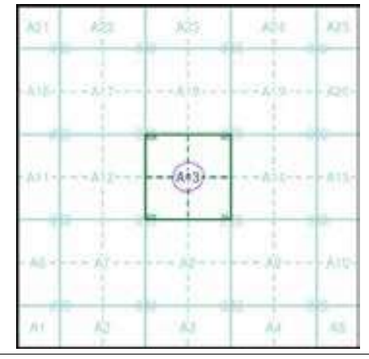
TQ16_London

No.	Description
255	Radio Station

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Surrey	1:10,560	1871	3
Surrey	1:10,560	1896 - 1897	4
Surrey	1:10,560	1914 - 1915	5
Surrey	1:10,560	1915 - 1916	6
Surrey	1:10,560	1932 - 1933	7
Surrey	1:10,560	1938	8
Surrey	1:10,560	1938	9
Historical Aerial Photography	1:10,560	1948	10
Ordnance Survey Plan	1:10,000	1962	11
Ordnance Survey Plan	1:10,000	1965	12
Ordnance Survey Plan	1:10,000	1974 - 1975	13
Ordnance Survey Plan	1:10,000	1983	14
London	1:25,000	1985	15
Ordnance Survey Plan	1:10,000	1992	16
10K Raster Mapping	1:10,000	1999	17
10K Raster Mapping	1:10,000	2006	18
VectorMap Local	1:10,000	2021	19

Russian Map - Slice A



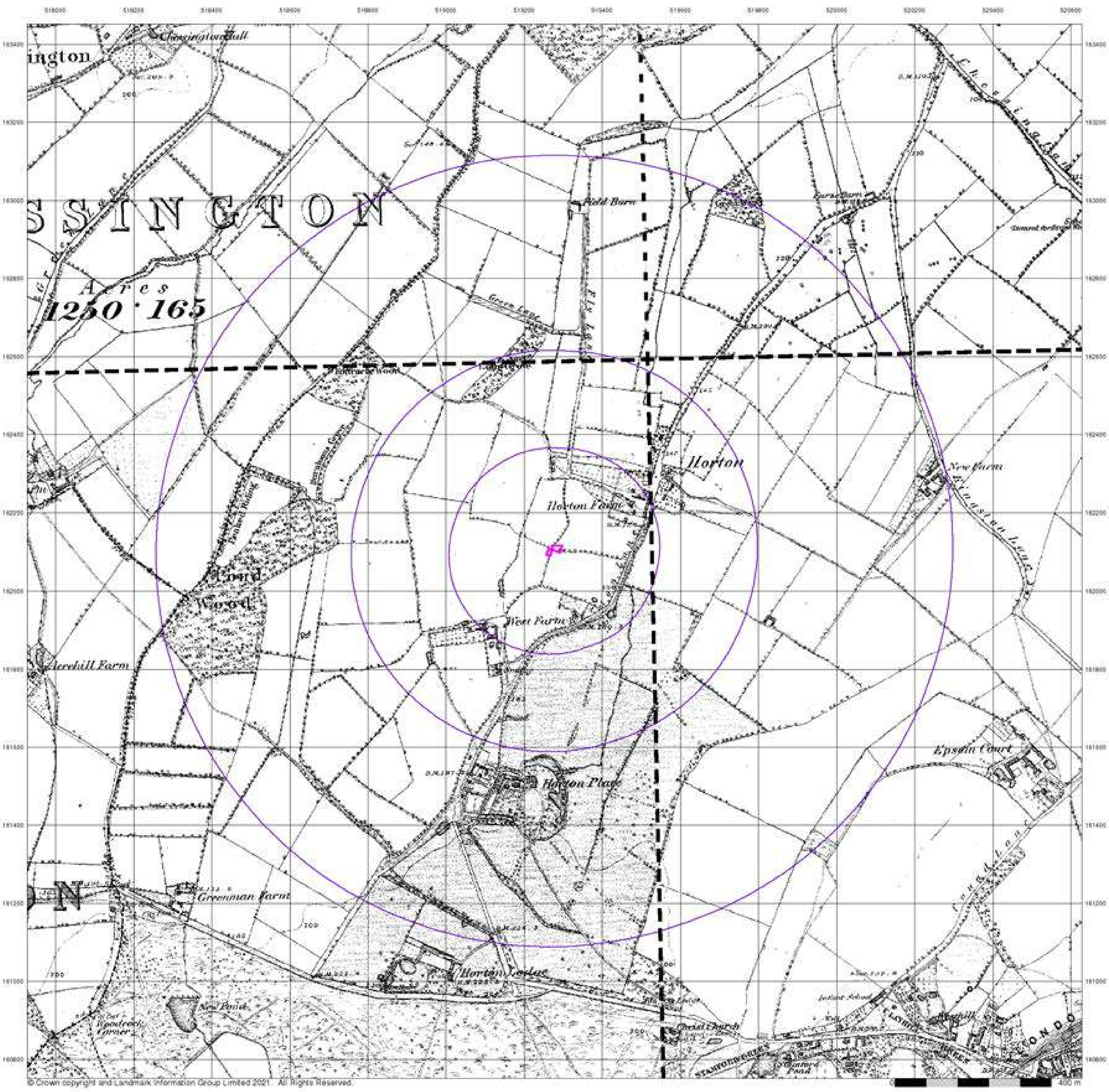
Order Details

Order Number: 288834020_1_1
Customer Ref: LKC 21 5152
National Grid Reference: 519280, 162100
Slice: A
Site Area (Ha): 0.05
Search Buffer (m): 1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



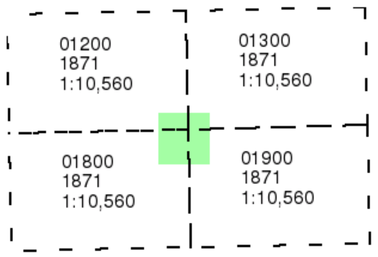
Surrey

Published 1871

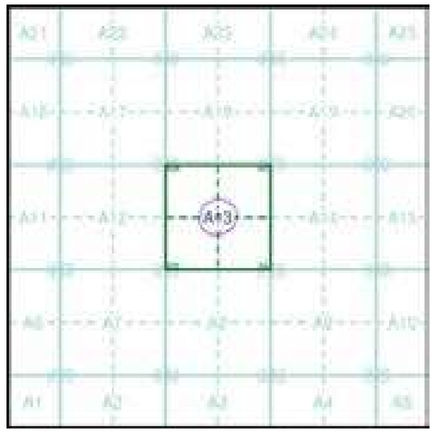
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



N

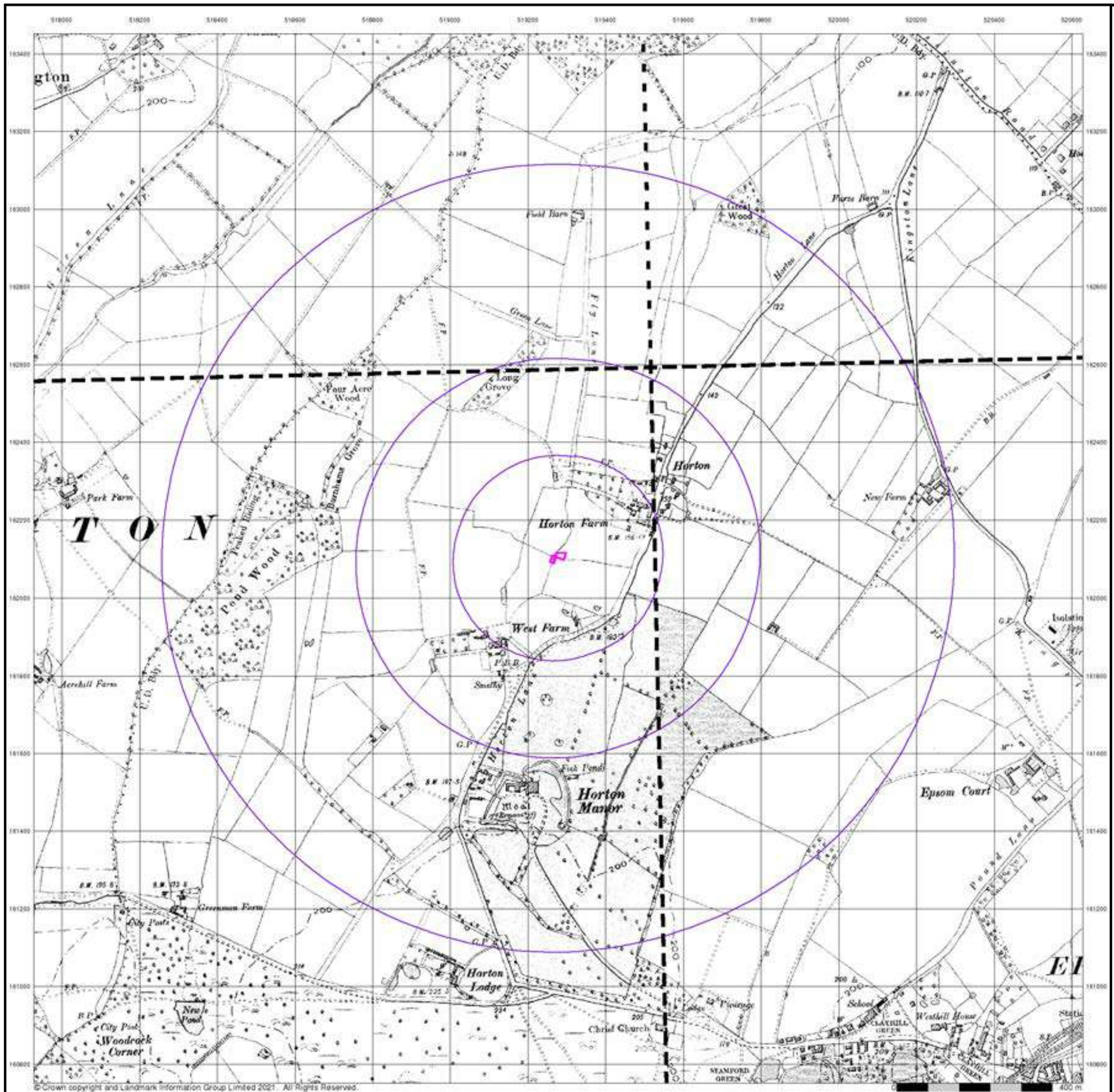
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Tel:	0844 844 9952
Fax:	0844 844 9951
Web:	www.envirocheck.co.uk



LK GROUP

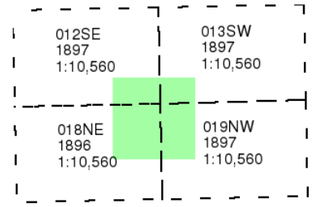
Surrey

Published 1896 - 1897

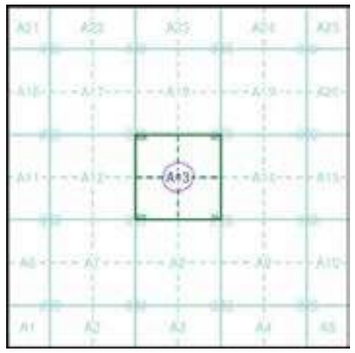
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

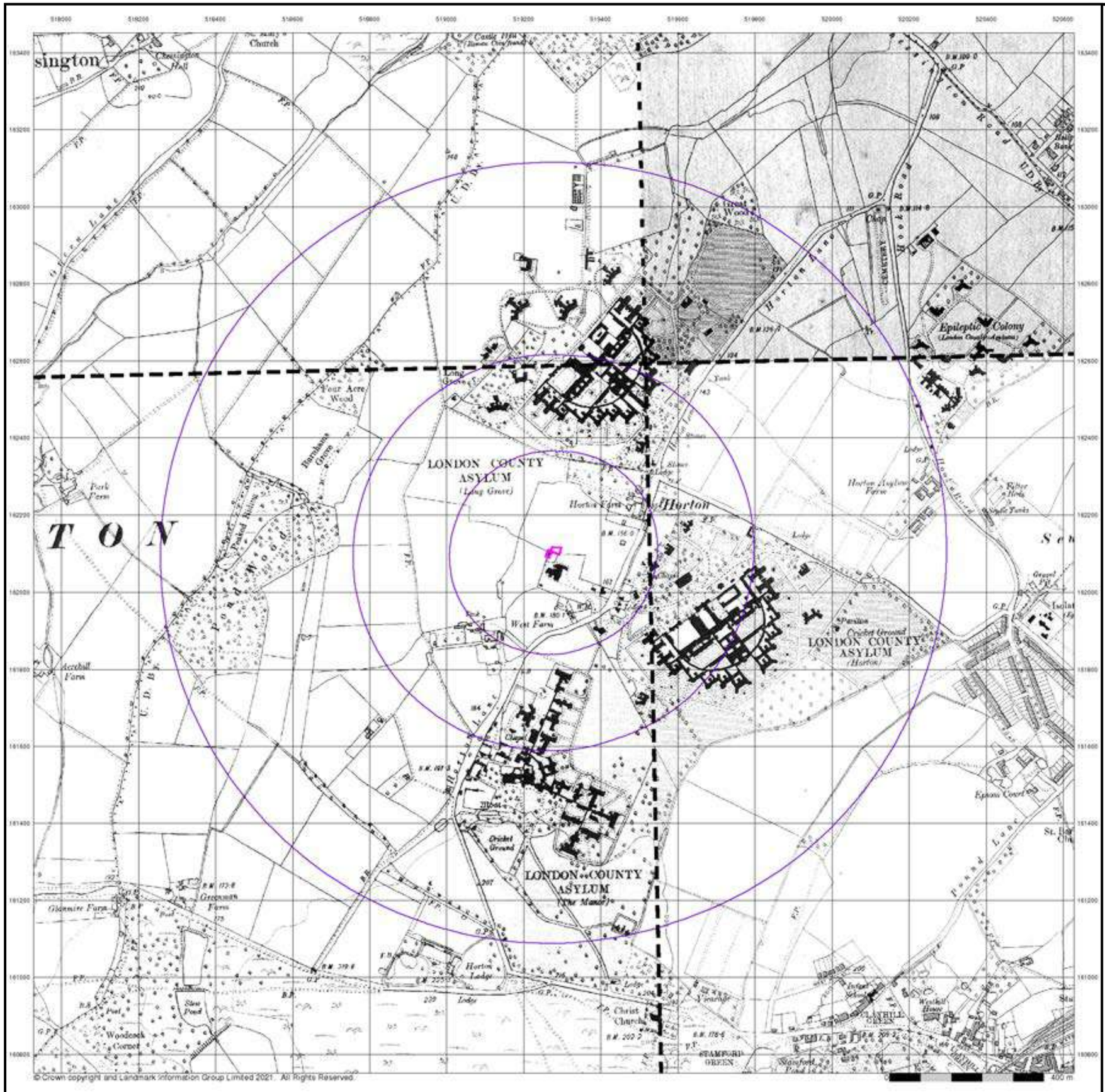


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

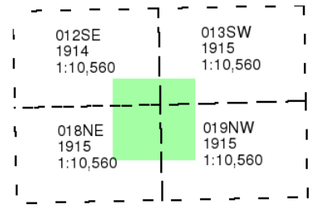
Surrey

Published 1914 - 1915

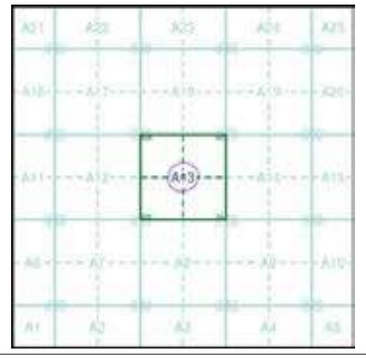
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

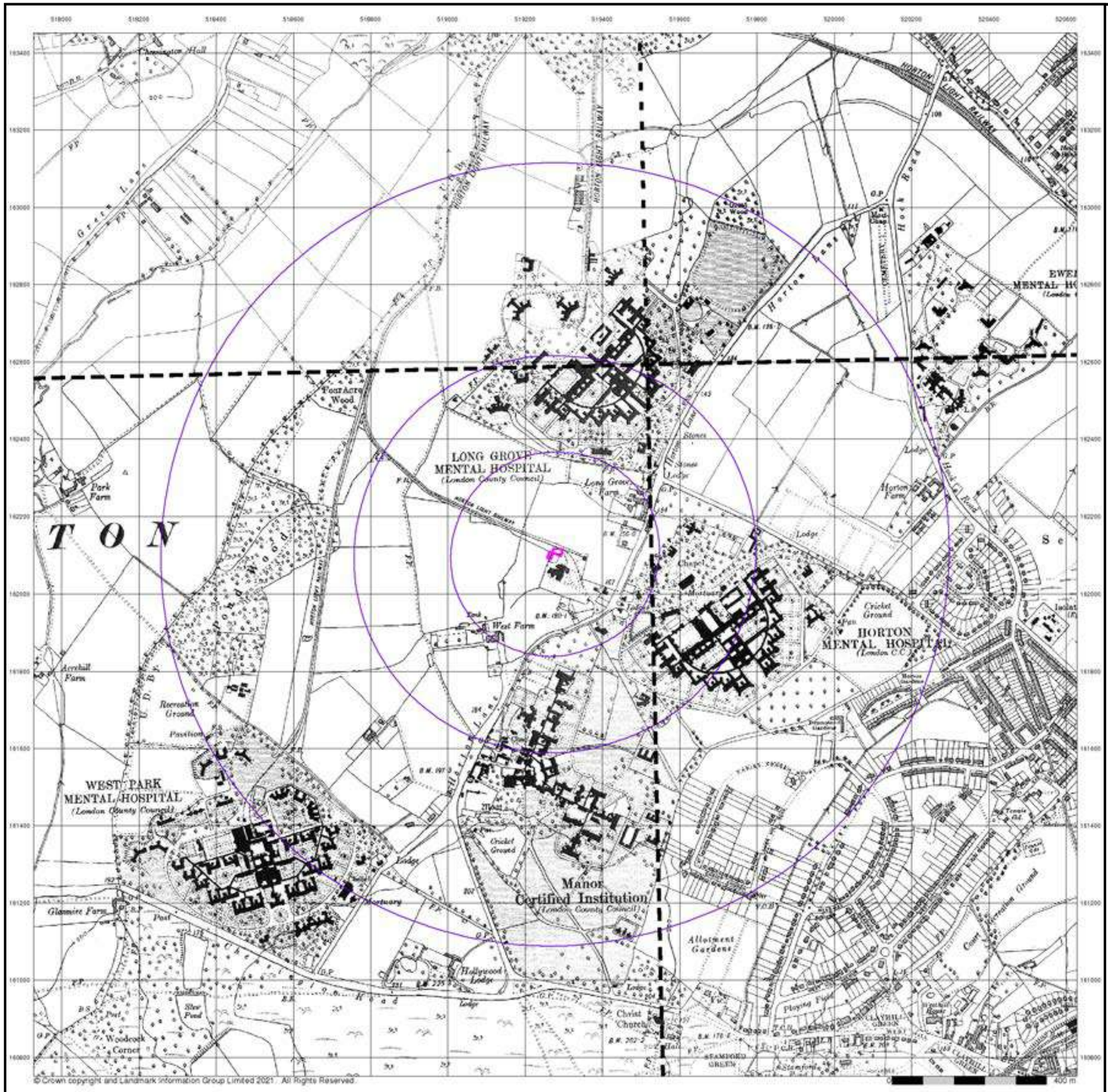


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

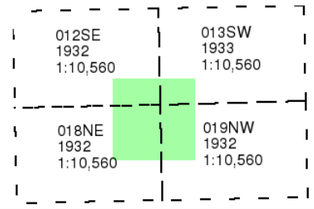
Surrey

Published 1932 - 1933

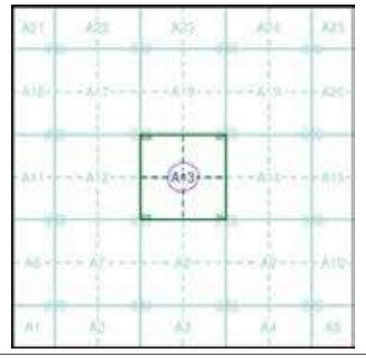
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

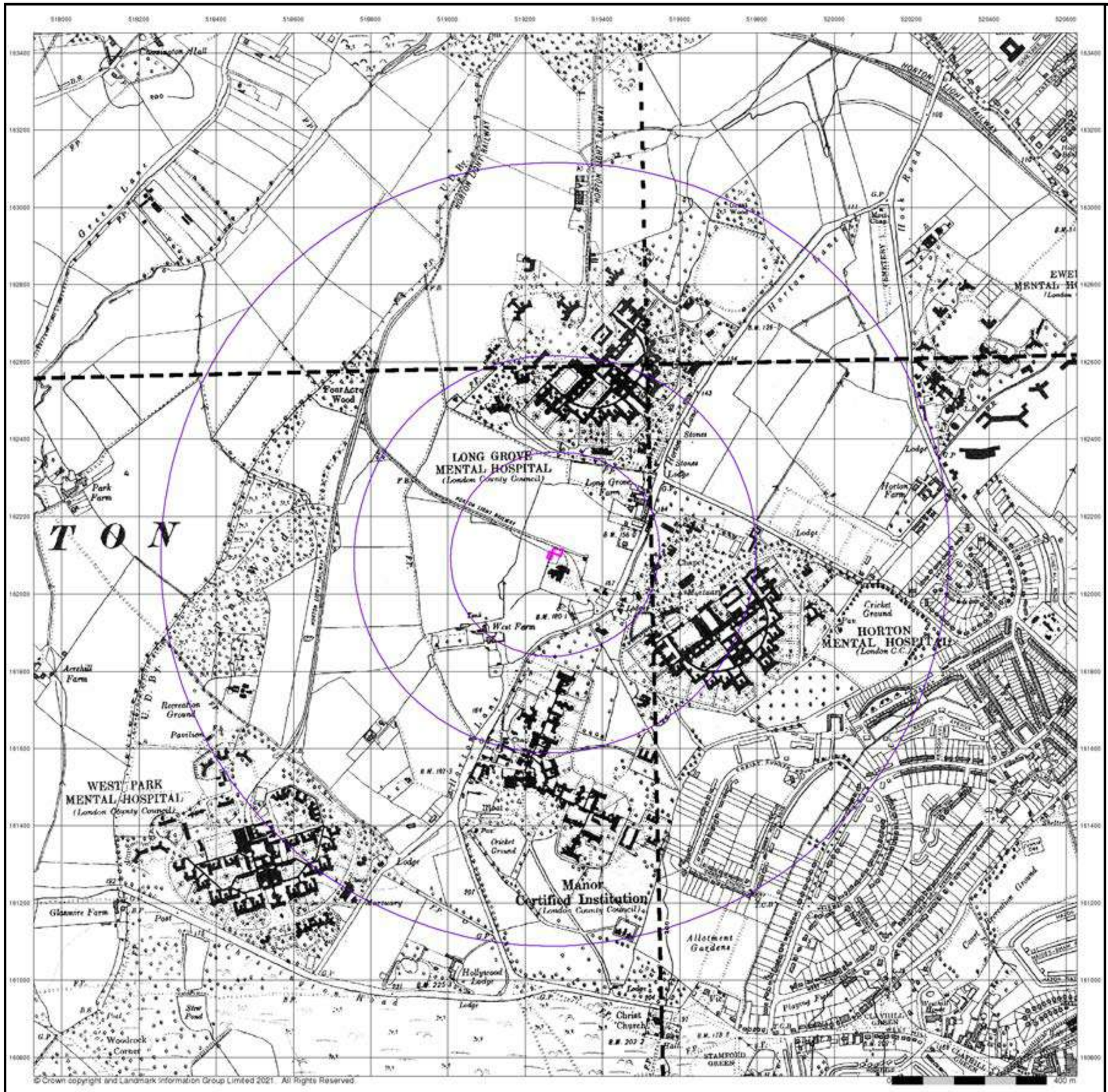


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

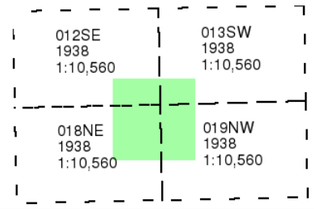
Surrey

Published 1938

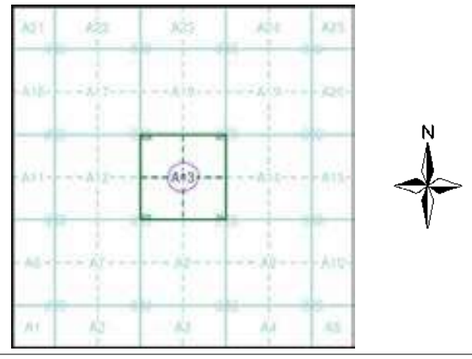
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

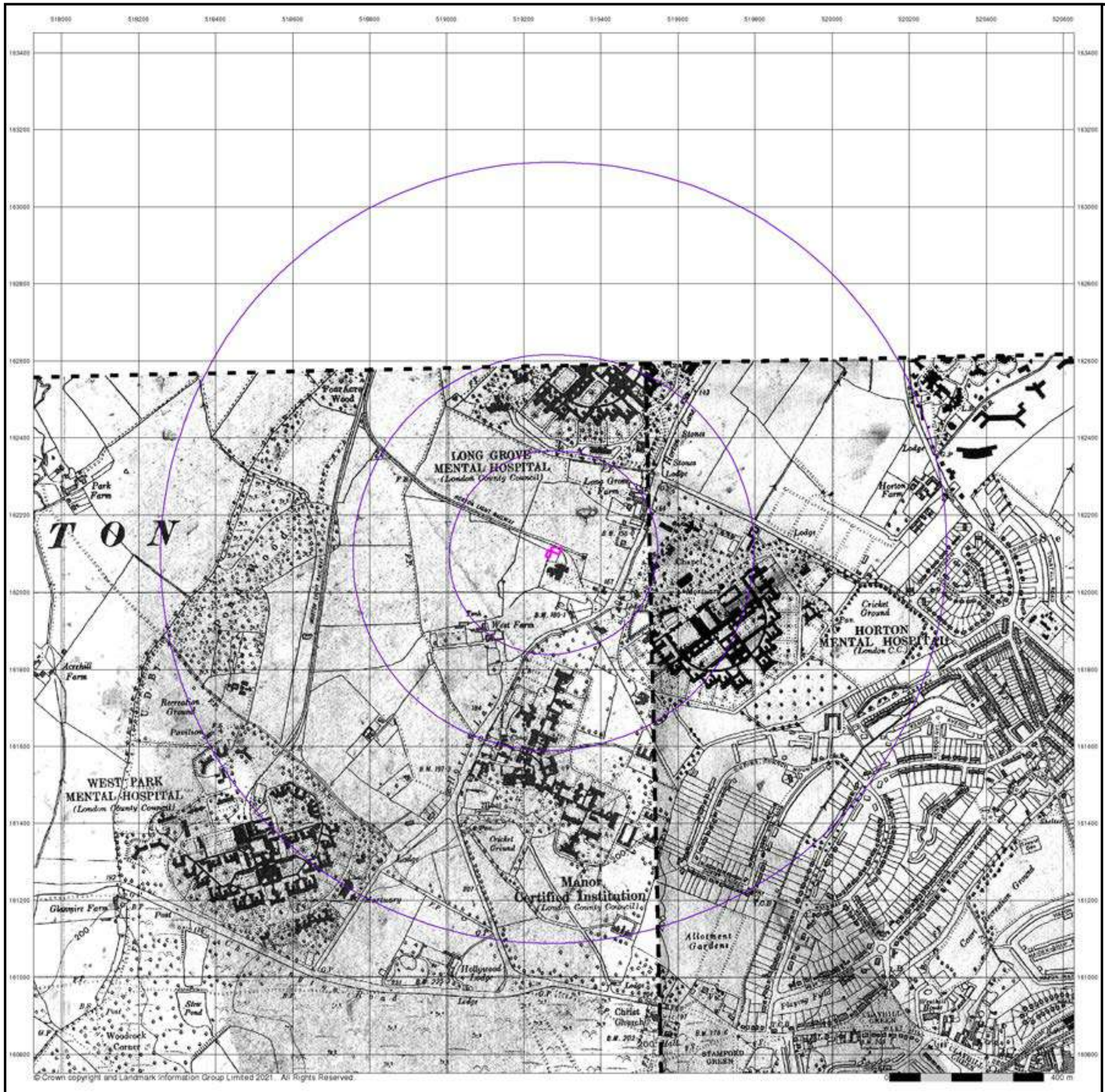


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

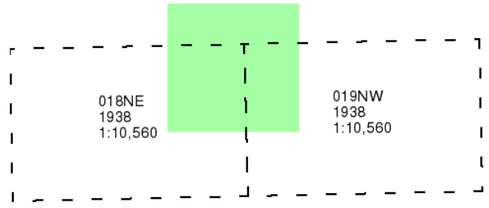
Surrey

Published 1938

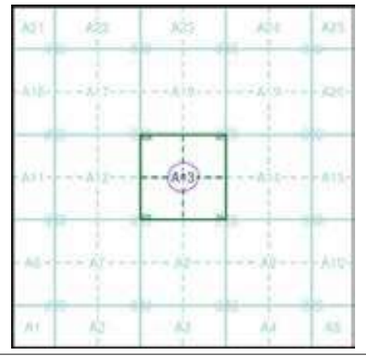
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

LK GROUP

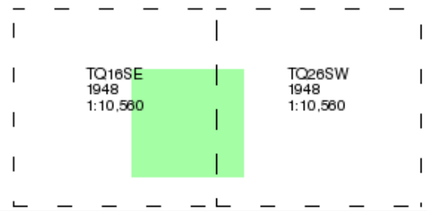
Historical Aerial Photography

Published 1948

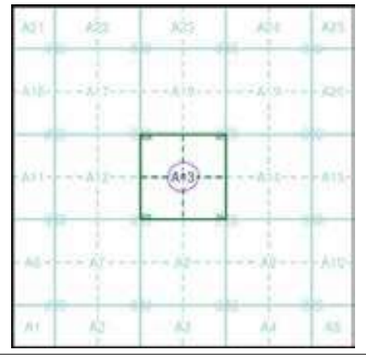
Source map scale - 1:10,560

The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



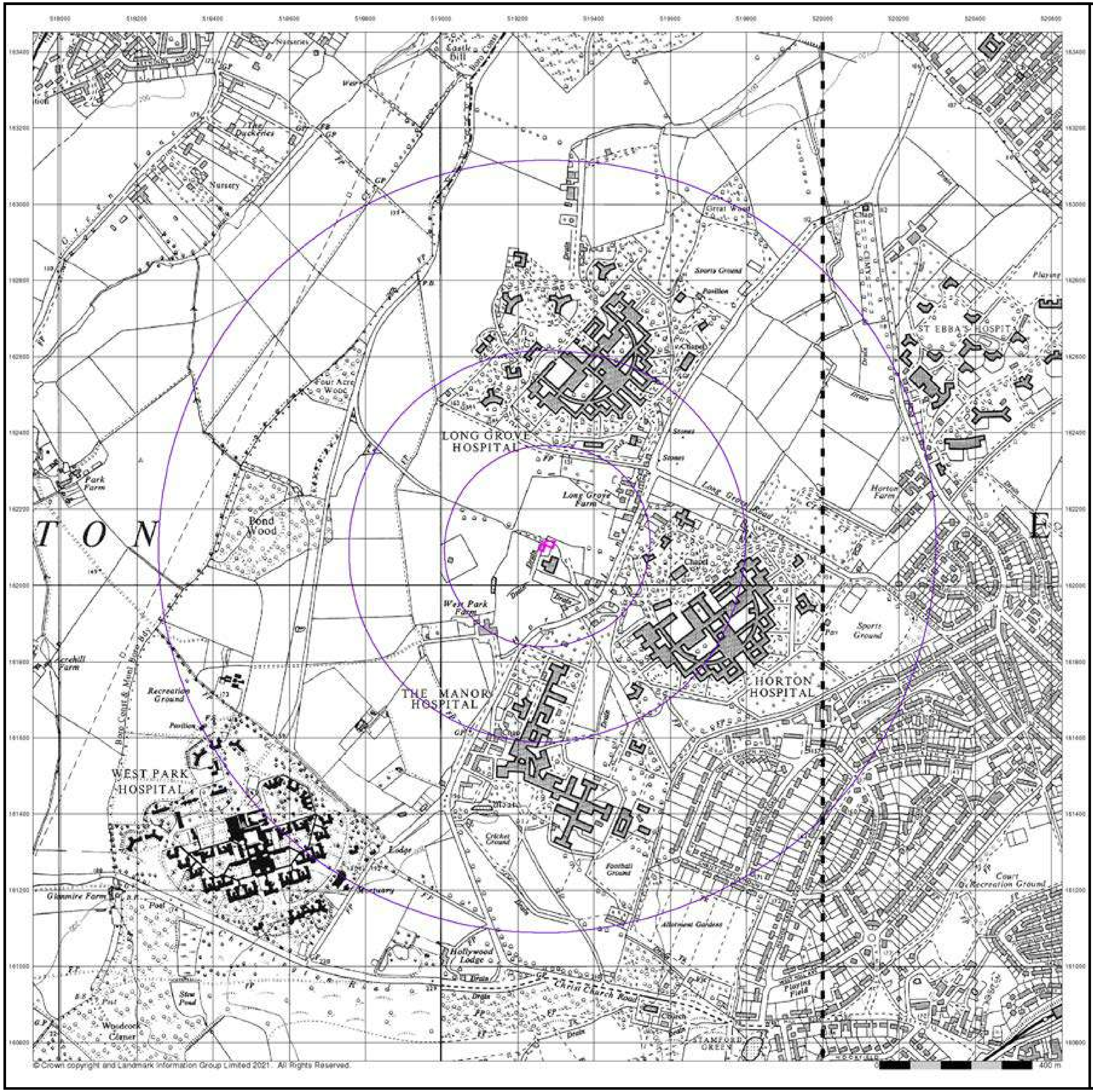
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



400 m

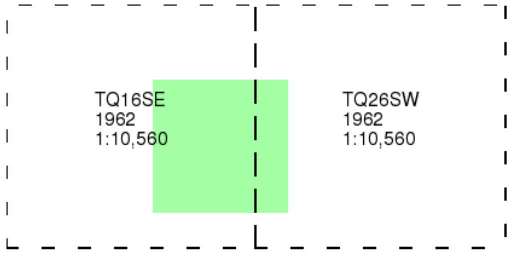
Ordnance Survey Plan

Published 1962

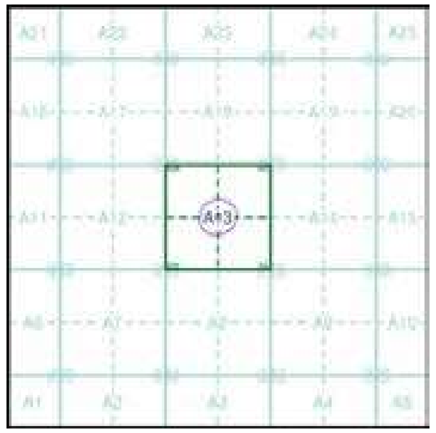
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



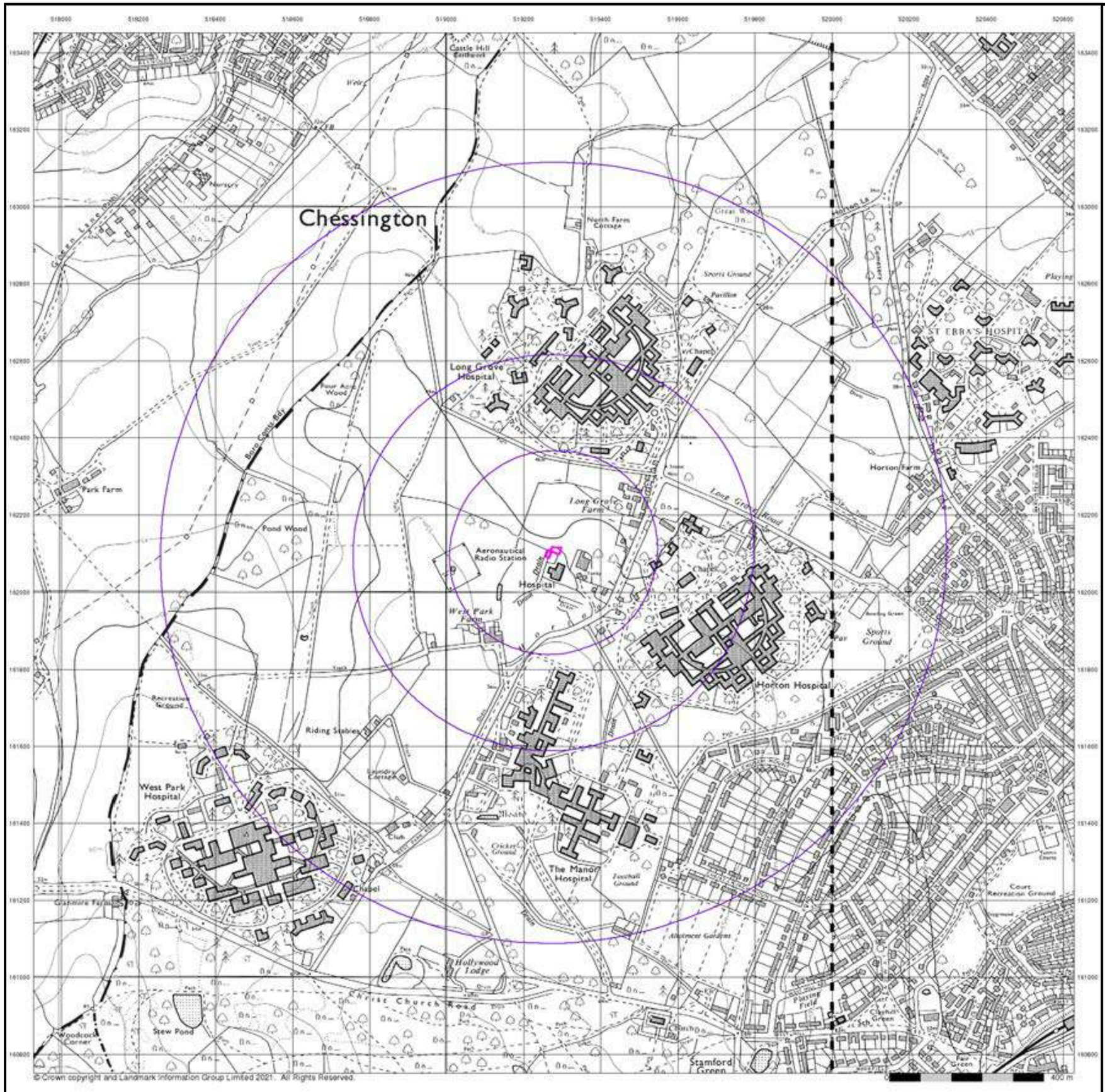
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LK GROUP

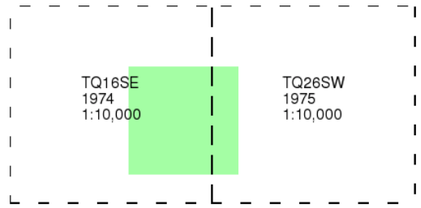
Ordnance Survey Plan

Published 1974 - 1975

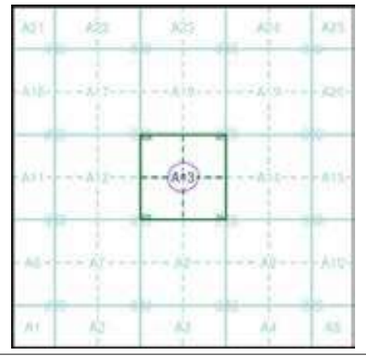
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



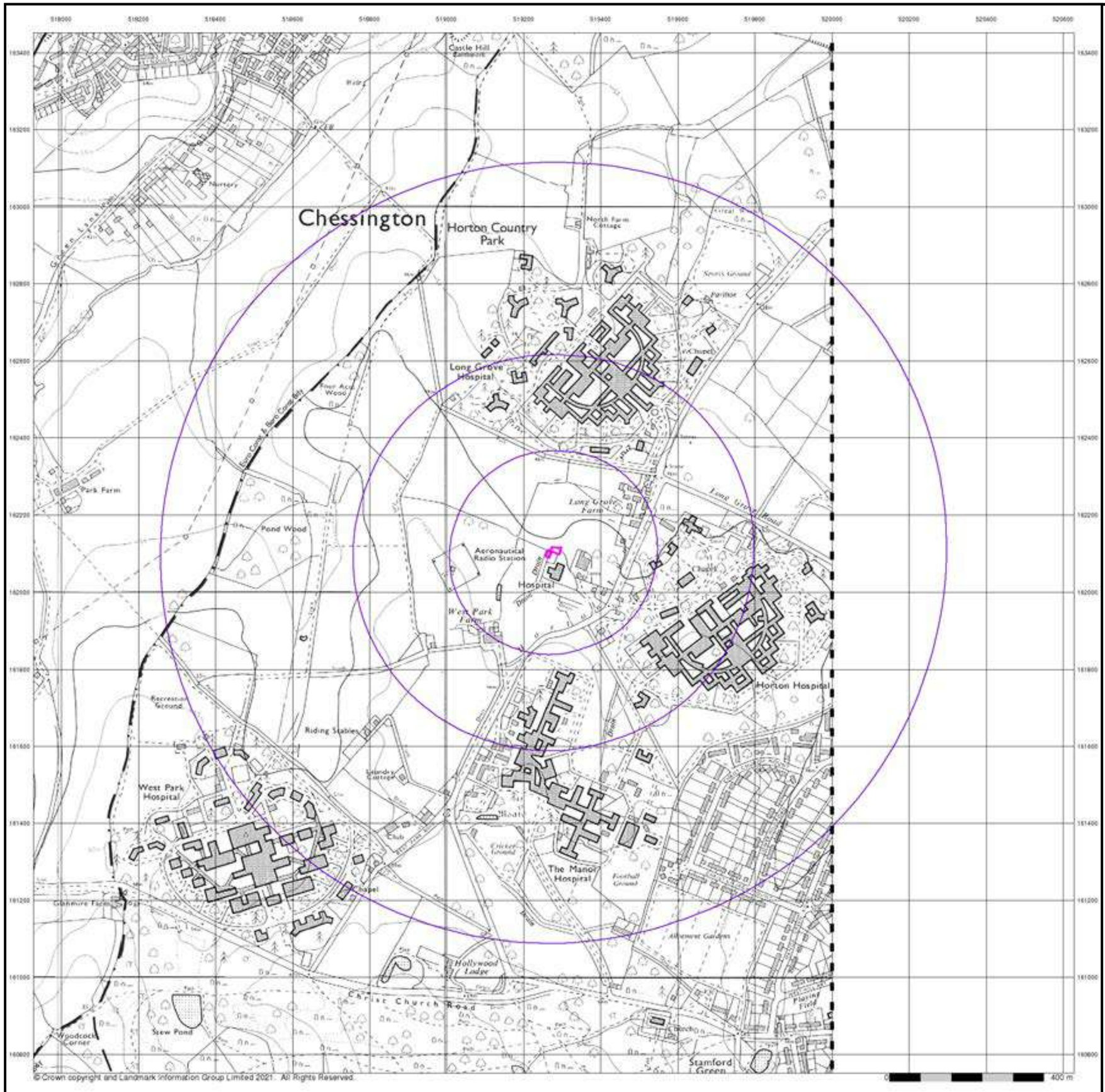
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LK GROUP

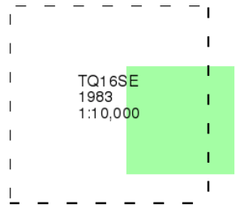
Ordnance Survey Plan

Published 1983

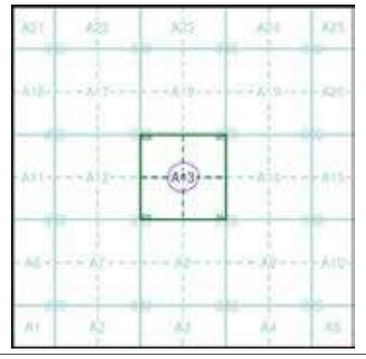
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



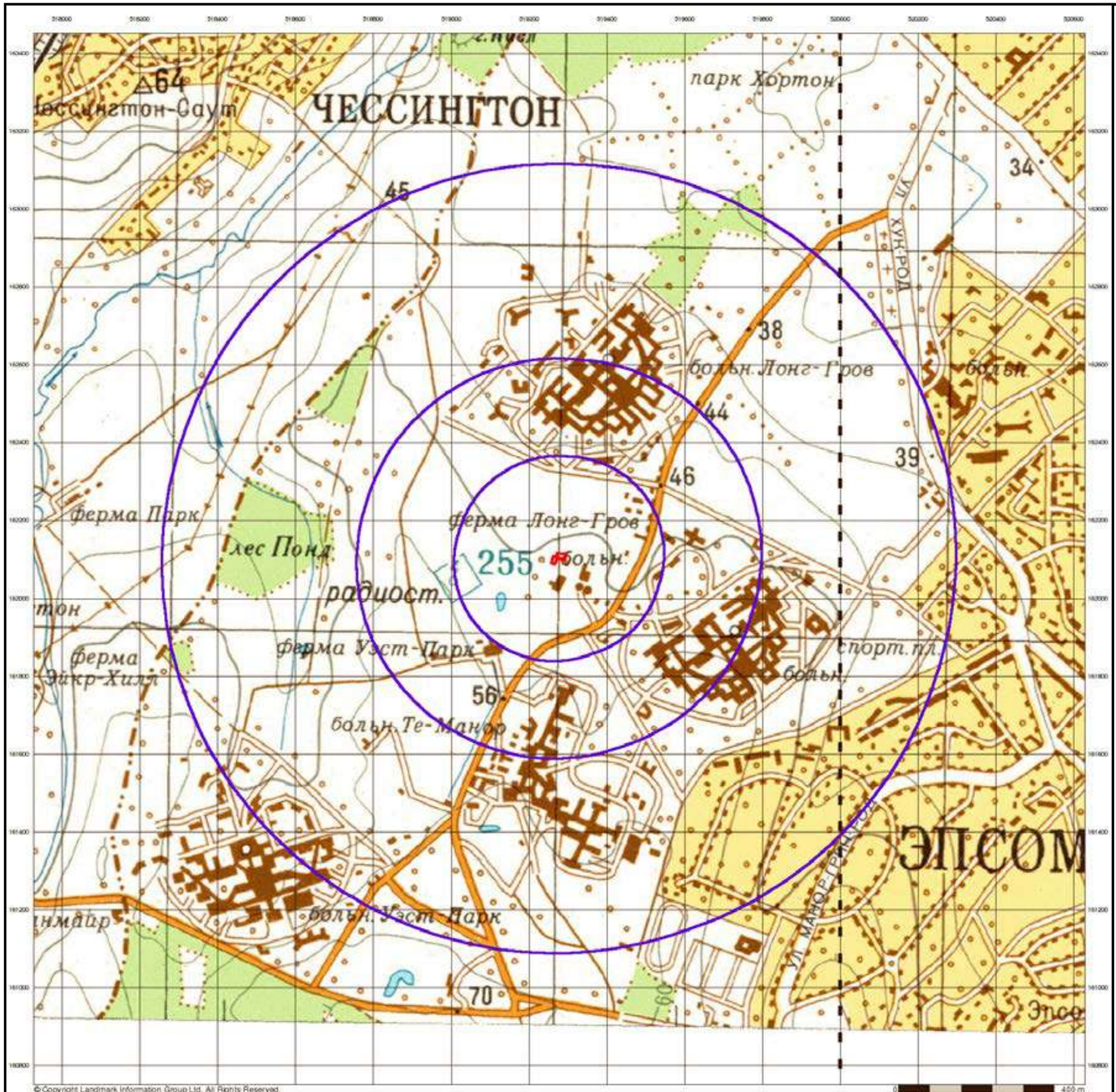
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LKC GROUP

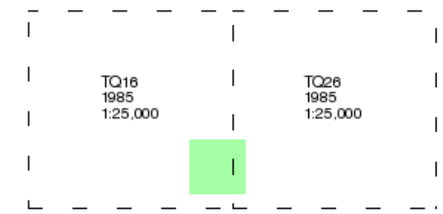
London

Published 1985

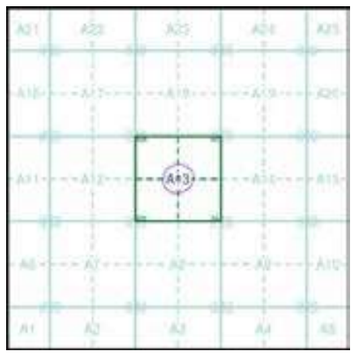
Source map scale - 1:25,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use.
They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



Russian Map - Slice A



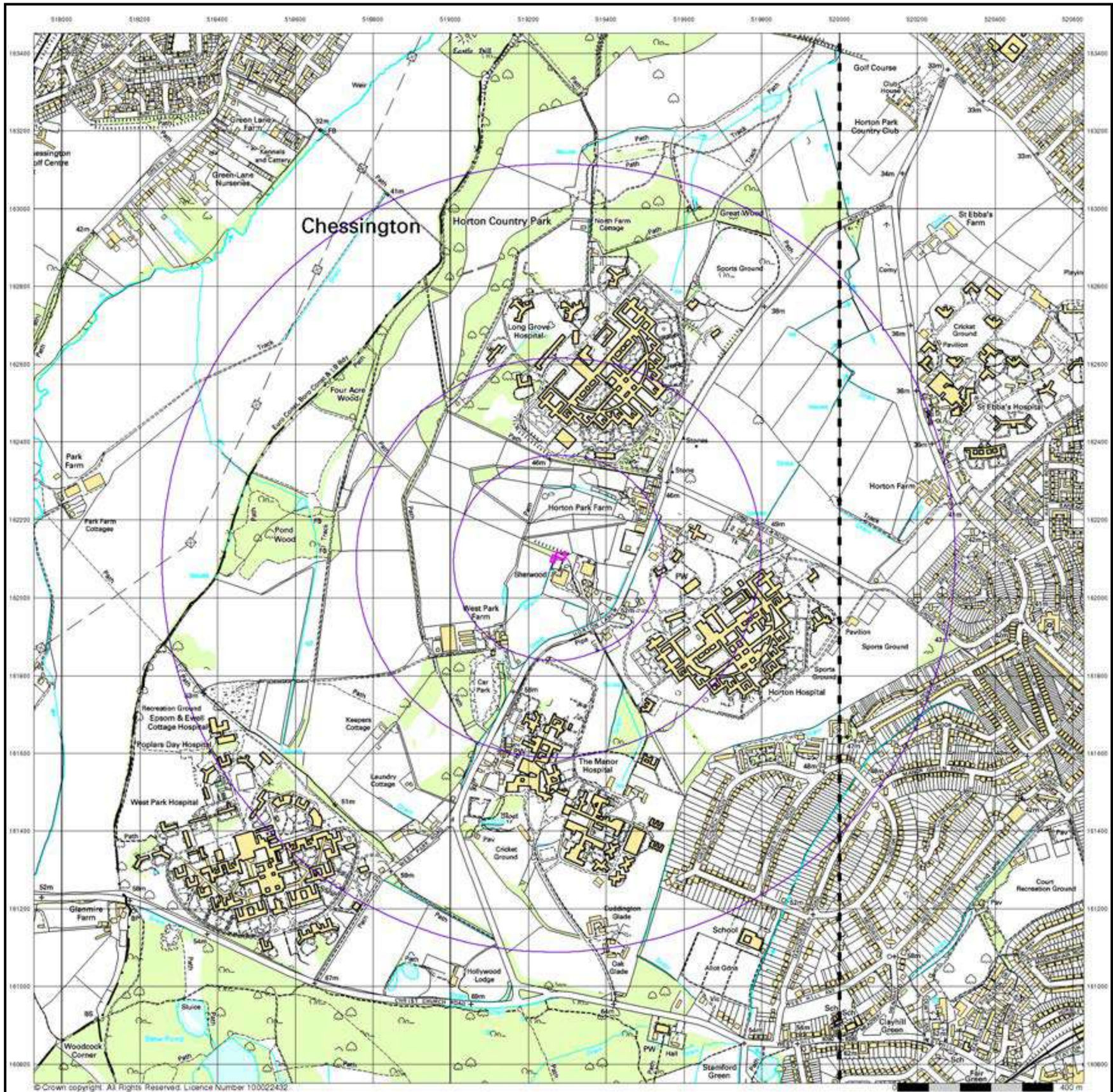
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LK GROUP

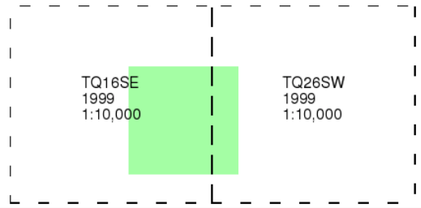
10k Raster Mapping

Published 1999

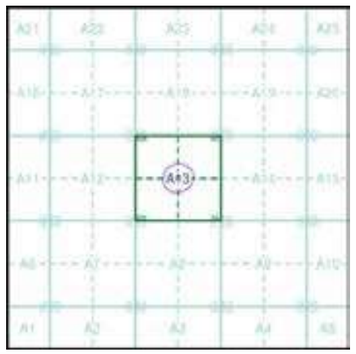
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

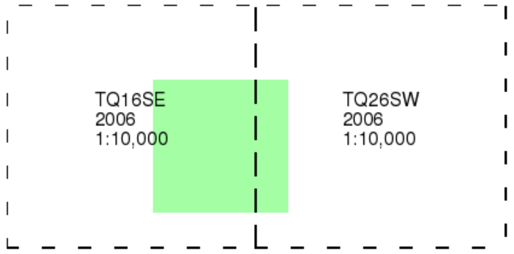
10k Raster Mapping

Published 2006

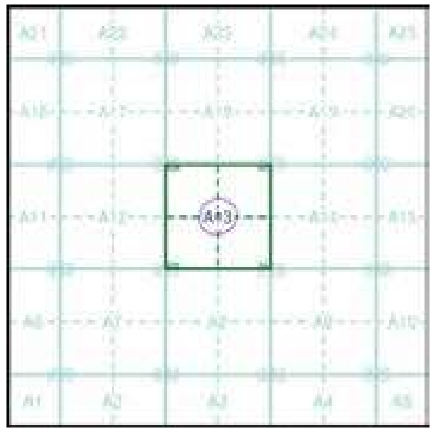
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A

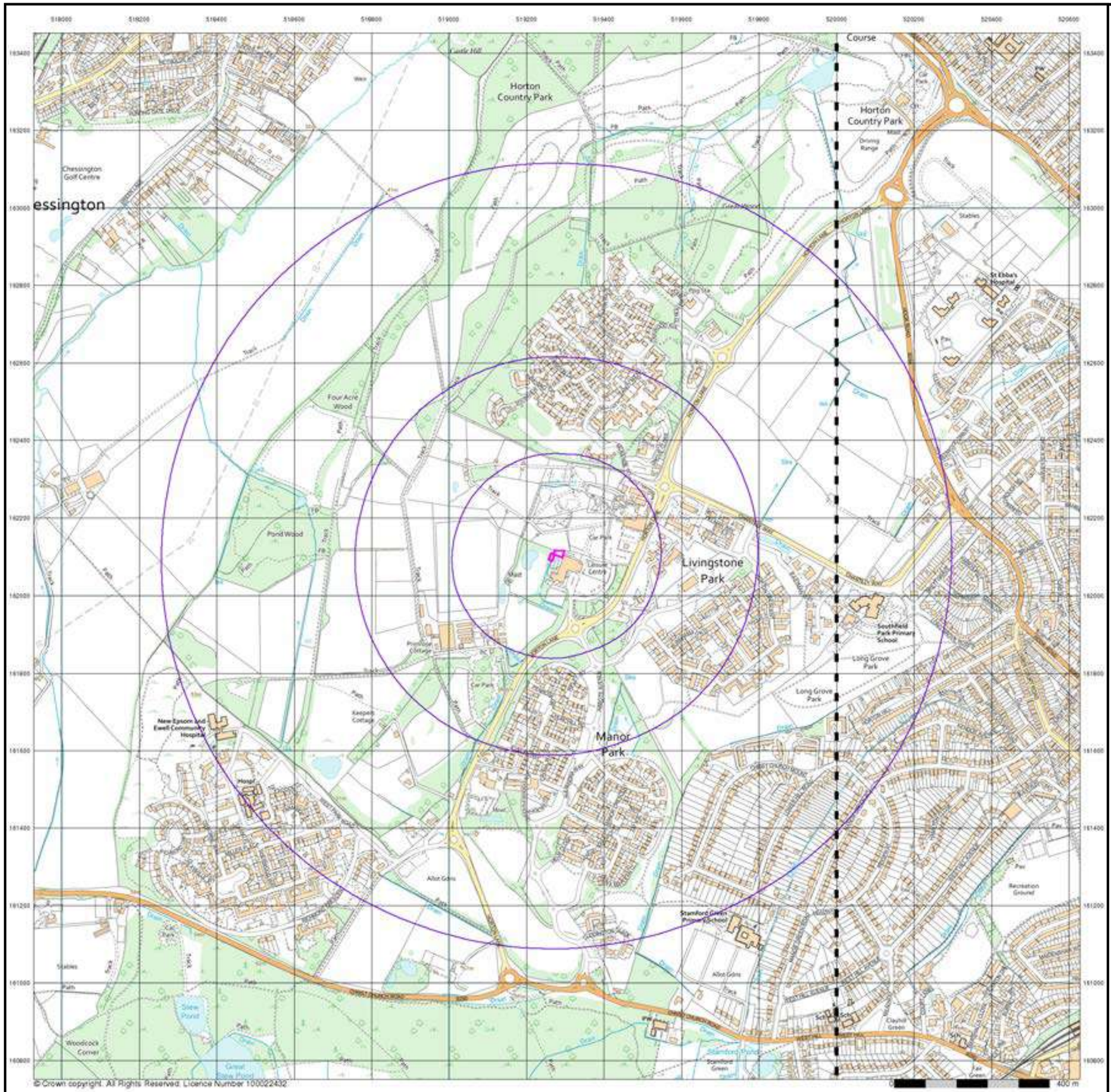


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

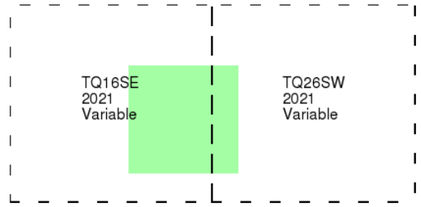
VectorMap Local

Published 2021

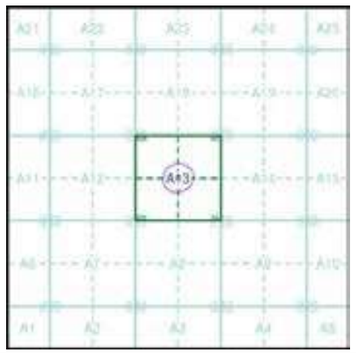
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Appendix B

Envirocheck Report

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
288834020_1_1

Customer Reference:
LKC 21 5152

National Grid Reference:
519280, 162100

Slice:
A

Site Area (Ha):
0.05

Search Buffer (m):
1000

Site Details:

David Lloyd Health & Fitness Club
Central Boiler House
Horton Lane
EPSOM
KT19 8PL

Client Details:

L Consult
LK Consult Ltd
Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Greater Manchester
M26 2ZS

Prepared For:

David Lloyd Leisure
Horton Lane
Epsom
Surrey
KT19 8PL

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility					n/a
Contaminated Land Register Entries and Notices					
Discharge Consents					
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 1				1
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature			Yes		
Pollution Incidents to Controlled Waters	pg 1		1		1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 1				5
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 2				(*6)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 3	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 3	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 4		6	10	52

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 12	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 12				3
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 13	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 13	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 13				Yes
BGS Urban Soil Chemistry Averages	pg 14			Yes	
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 14	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 14	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards				n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 14	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 15		2	6	8
Fuel Station Entries					
Points of Interest - Commercial Services	pg 16		3	2	1
Points of Interest - Education and Health	pg 16			1	13
Points of Interest - Manufacturing and Production	pg 18		9		
Points of Interest - Public Infrastructure	pg 18				2
Points of Interest - Recreational and Environmental	pg 18		2	1	4
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 20			1	5
Areas of Adopted Green Belt	pg 20	1			1
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves	pg 20		1		
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 20	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Local Authority Pollution Prevention and Controls** Name: Horton Hospital Location: Longrove Road, EPSOM, Surrey, KT19 8PZ Authority: Epsom And Ewell Borough Council, Environmental Health Department Permit Reference: EPA/1/93/PG5/1 (91) Dated: 6th January 1992 Process Type: Local Authority Air Pollution Control Description: PG5/1Clinical waste incineration processes under 1 tonne an hour **Status: Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A14SE (E)	767	2	520042 161931
	Nearest Surface Water Feature	A13SW (SW)	1	-	519262 162089
2	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Horton Country Park, EPSOM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 19th January 1997 Incident Reference: THSE1997031807 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13SE (S)	95	3	519300 162000
3	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: West Park Hospital Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th December 1991 Incident Reference: SE910342 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	961	3	518500 161500
4	**Registered Radioactive Substances** Name: Epsom Healthcare NHS Trust Location: West Park Hospital, Horton Lane, EPSOM, Surrey, KT19 8PB Authority: Environment Agency, Thames Region Permit Reference: BC2033 Dated: 24th August 2000 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A8SE (S)	782	3	519370 161313
4	**Registered Radioactive Substances** Name: St George's Healthcare Nhs Trust Location: West Park Hospital, Horton Lane, EPSOM, Surrey, KT19 8PB Authority: Environment Agency, Thames Region Permit Reference: AY8956 Dated: 6th June 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA dated pre April 1991 **Status: Application made in error** Positional Accuracy: Unknown	A8SE (S)	783	3	519375 161313
4	**Registered Radioactive Substances** Name: Epsom And St Helier Nhs Trust Location: West Park Hospital, Horton Lane, EPSOM, Surrey, KT19 8PB Authority: Environment Agency, Thames Region Permit Reference: AJ8346 Dated: 27th September 1994 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Unknown	A8SE (S)	792	3	519370 161303

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Registered Radioactive Substances** Name: Epsom And St Helier Nhs Trust Location: Horton Lane, Epsom, Surrey, KT19 8PB Authority: Environment Agency, Thames Region Permit Reference: CB6429 Dated: 6th September 2007 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Discretionary registration under the Act of an open source which is also the subject of an authorisation **Status: Application has been authorised and any conditions apply to the operator** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	967	3	518390 161664
5	**Registered Radioactive Substances** Name: Epsom And St Helier Nhs Trust Location: Horton Lane, Epsom, Surrey, KT19 8PB Authority: Environment Agency, Thames Region Permit Reference: Bw7961 Dated: 1st December 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Application has been authorised and any conditions apply to the operator** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	967	3	518390 161664
	Water Abstractions Operator: Surrey Heartlands Nhs Trust Licence Number: 28/39/33/0016 Permit Version: Not Supplied Location: West Park Hospital Authority: Environment Agency, Thames Region Abstraction: Health Hydro, Hospital Use Or Nursing Home Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 227 Yearly Rate (m3): 68190 Details: Chalk (Undifferentiated); Licence Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SW (SW)	1026	3	518500 161400
	Water Abstractions Operator: Horton Park Golf & C C Ltd Licence Number: 28/39/33/0019 Permit Version: 101 Location: Horton Stream At Horton Park Golf & Country Club Authority: Environment Agency, Thames Region Abstraction: Golf Courses: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Horton Park Golf & Country Club Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 11th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A24SW (NE)	1398	3	519950 163350
	Water Abstractions Operator: Horton Park Country Club Ltd Licence Number: 28/39/33/0019 Permit Version: 100 Location: Horton Stream At Horton Park Country Club, Hook Road, Epsom, Authority: Environment Agency, Thames Region Abstraction: Golf Courses: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 720 Yearly Rate (m3): 10800 Details: Horton Stream At Horton Park Country Club, Hook Road, Epsom, Surrey Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 4th September 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A24SW (NE)	1398	3	519950 163350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Thames Water Utilities Ltd Licence Number: 28/39/33/0008B Permit Version: Not Supplied Location: East Street, EPSOM, Surrey Authority: Environment Agency, Thames Region Abstraction: Public Water Supply Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 3410 Yearly Rate (m3): 1 Details: Annual Total Aggregated To Another Licence For Quantity Purposes. Chalk (Undifferentiated) Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SE)	1885	3	521000 161300
	Water Abstractions Operator: Thames Water Utilities Ltd Licence Number: 28/39/33/0008 Permit Version: 101 Location: East Street Waterworks Point 'B' Authority: Environment Agency, Thames Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th July 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1910	3	521050 161350
	Water Abstractions Operator: Thames Water Utilities Ltd Licence Number: 28/39/33/0008 Permit Version: 100 Location: East Street Waterworks Point B Authority: Environment Agency, Thames Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 18184 Yearly Rate (m3): 7071303 Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th May 1967 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1910	3	521050 161350
	Groundwater Vulnerability Map Combined Classification: Unproductive Aquifer (may have productive aquifer beneath) Combined Vulnerability: Unproductive Combined Aquifer: Unproductive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13NW (S)	0	4	519278 162103
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13NW (S)	0	4	519278 162103
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
6	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 74.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (SW)	1	5	519262 162089
7	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (SW)	89	5	519234 162006
8	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 60.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (SW)	89	5	519234 162006
9	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13NW (N)	164	5	519271 162279
10	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 9.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13NE (N)	169	5	519311 162283
11	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (SW)	250	5	519146 161868
12	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (SW)	258	5	519146 161859
13	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (S)	267	5	519192 161833

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (SW)	275	5	519134 161845
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 81.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SW (SW)	290	5	519136 161828
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 549.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SE (SE)	326	5	519536 161881
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A13SE (SE)	357	5	519445 161775
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 98.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NW (S)	362	5	519144 161748
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 177.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NE (SE)	376	5	519441 161753
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 141.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NE (SE)	376	5	519441 161753
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NW (S)	471	5	519091 161651
22	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 39.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NW (E)	504	5	519800 162149

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 117.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NW (SW)	507	5	519069 161621
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NW (E)	511	5	519803 162191
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NW (E)	514	5	519805 162194
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 167.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NW (E)	519	5	519809 162199
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NW (E)	540	5	519837 162134
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14SW (E)	572	5	519869 162091
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NW (E)	577	5	519874 162109
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 647.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (W)	602	5	518657 162120
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 170.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NW (E)	641	5	519897 162341

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 12.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (W)	644	5	518631 162237
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 308.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A9NW (SE)	648	5	519727 161617
34	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 24.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (W)	655	5	518621 162246
35	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 7.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (W)	655	5	518621 162246
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 148.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (W)	661	5	518617 162253
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 146.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	685	5	519340 162798
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 61.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7NE (SW)	749	5	518906 161430
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SW (SW)	759	5	518977 161387
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SW (S)	759	5	518983 161384

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SW (S)	759	5	518983 161384
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 71.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (S)	771	5	519573 161379
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	782	5	519983 162489
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 608.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NW (W)	807	5	518481 162310
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 276.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NW (W)	807	5	518481 162310
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	819	5	519359 162930
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 196.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A9NE (SE)	819	5	520016 161714
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 168.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SW (NE)	822	5	519890 162683
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	829	5	519359 162940

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 46.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (S)	829	5	519554 161311
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 120.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	850	5	520023 162556
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	850	5	520023 162556
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	852	5	519980 162624
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	852	5	519980 162624
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 38.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NE (E)	855	5	520151 162148
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 204.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	858	5	519984 162629
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 175.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	861	5	519361 162972
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 170.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (S)	867	5	519542 161266

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A14NE (E)	877	5	520172 162184
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 186.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A17SW (NW)	885	5	518567 162654
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 84.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	888	5	519607 162946
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 272.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A17NE (NW)	915	5	518679 162812
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 321.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7SE (SW)	923	5	518833 161272
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A9SW (SE)	931	5	519887 161381
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 222.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A9NE (SE)	935	5	520064 161569
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 213.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A9NE (SE)	936	5	520044 161540
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A9NE (SE)	936	5	520051 161549

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	960	5	520093 162651
69	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 17.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19NW (N)	965	5	519631 163019
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 152.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19NW (N)	972	5	519620 163031
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 482.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A9SW (SE)	972	5	519927 161361
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SE (NE)	986	5	520034 162769
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 155.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19NE (NE)	997	5	520030 162790

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Epsom And Ewell District Council - Has no landfill data to supply		0	2	519278 162103
	Local Authority Landfill Coverage Name: Surrey County Council - Has supplied landfill data		0	6	519278 162103
	Local Authority Landfill Coverage Name: Royal Borough of Kingston Upon Thames - Has supplied landfill data		720	7	518757 162619
74	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1996	A8NW (S)	507	-	519256 161581
75	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1915	A8SW (S)	739	-	518989 161403
76	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1915	A7NW (SW)	854	-	518554 161608

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Thames Group	A13NW (S)	0	1	519278 162103
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (S)	0	1	519278 162103
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: 2.2 - 3.0 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	203	1	519500 162103
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: 1.8 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (NE)	436	1	519500 162500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: no data Cadmium Concentration: <1.8 mg/kg Chromium Concentration: no data Lead Concentration: <100 mg/kg Nickel Concentration: no data	A18NW (N)	927	1	519000 163000
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 518683, 162805 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 7.90 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 58.20 mg/kg Lead Measured Concentration: 32.50 mg/kg Nickel Measured Concentration: 8.00 mg/kg	A17NE (NW)	907	1	518683 162805

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: London Count Id: 7209 Arsenic Minimum Concentration: 1.00 mg/kg Arsenic Average Concentration: 17.00 mg/kg Arsenic Maximum Concentration: 161.00 mg/kg Cadmium Minimum Concentration: 0.10 mg/kg Cadmium Average Concentration: 0.90 mg/kg Cadmium Maximum Concentration: 165.20 mg/kg Chromium Minimum Concentration: 13.00 mg/kg Chromium Average Concentration: 79.00 mg/kg Chromium Maximum Concentration: 2094.00 mg/kg Lead Minimum Concentration: 11.00 mg/kg Lead Average Concentration: 280.00 mg/kg Lead Maximum Concentration: 10000.00 mg/kg Nickel Minimum Concentration: 2.00 mg/kg Nickel Average Concentration: 28.00 mg/kg Nickel Maximum Concentration: 506.00 mg/kg	A13NW (NW)	326	1	519000 162300
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NW (S)	0	1	519278 162103

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	**Contemporary Trade Directory Entries** Name: Blackbarn Forge Location: Horton Lane, Epsom, Surrey, KT19 8PT Classification: Blacksmiths & Forgemasters **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A13NE (E)	162	-	519459 162126
78	**Contemporary Trade Directory Entries** Name: M F Demianow Location: Black Barn Forge, Horton Park Farm, Horton Lane, Epsom, Surrey, KT19 8PT Classification: Wrought Ironwork **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	228	-	519486 162243
78	**Contemporary Trade Directory Entries** Name: Burnham Law Secure Unit Location: Horton Lane, Epsom, Surrey, KT19 8PT Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	254	-	519519 162238
79	**Contemporary Trade Directory Entries** Name: Madison Dry Cleaners Location: Unit 4, Covell House, Pelman Way, Epsom, KT19 8HJ Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (E)	296	-	519584 162186
79	**Contemporary Trade Directory Entries** Name: Horton Pharmacy Location: Unit 7, Covell House, Pelman Way, Epsom, Surrey, KT19 8HJ Classification: Chemists' & Pharmacists' Suppliers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (E)	310	-	519601 162177
80	**Contemporary Trade Directory Entries** Name: Urban Heat Boiler Servicing & Repairs Location: Pelham House,Pelman Way, Epsom, Surrey, KT19 8HH Classification: Boilers - Servicing, Replacements & Repairs **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A14NW (E)	342	-	519620 162228
81	**Contemporary Trade Directory Entries** Name: Fusion Print Management Location: 9, Ripley Way, Epsom, Surrey, KT19 7DB Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	369	-	519308 161722
82	**Contemporary Trade Directory Entries** Name: Head 4 Heights Cleaning Solutions Location: Flat 11, Victory House, Westcote Road, Epsom, Surrey, KT19 8GF Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	482	-	519754 161961
83	**Contemporary Trade Directory Entries** Name: Bravo Location: 3, Horton Crescent, Epsom, Surrey, KT19 8AA Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	517	-	519813 162072
84	**Contemporary Trade Directory Entries** Name: Thames Climate Services Location: Flat 2, Ascot Court, Eastman Way, Epsom, Surrey, KT19 8FD Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	653	-	519931 161957
84	**Contemporary Trade Directory Entries** Name: Emsi Lou Designs Location: Flat 1, Ascot Court, Eastman Way, Epsom, KT19 8FD Classification: Printers - Glass, Metal, Plastics Etc. **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	655	-	519930 161944
85	**Contemporary Trade Directory Entries** Name: The New Epsom & Ewell Cottage Hospital Location: The New Cottage Hospital,West Pk Rd, Epsom, Surrey, KT19 8PH Classification: Hospitals **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SW)	814	-	518920 161351

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	**Contemporary Trade Directory Entries** Name: Warren Gates Location: 17, Drummond Gardens, Christ Church Mount, Epsom, Surrey, KT19 8RP Classification: Gate Manufacturers - Automated **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	831	-	520011 161681
87	**Contemporary Trade Directory Entries** Name: Cane & Rush Location: 156, Horton Hill, Epsom, Surrey, KT19 8ST Classification: Furniture - Repairing & Restoring **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	877	-	520068 161690
88	**Contemporary Trade Directory Entries** Name: New Epsom & Ewell Community Hospital Location: Horton Lane, Epsom, KT19 8PB Classification: Hospitals **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	968	-	518391 161660
89	**Contemporary Trade Directory Entries** Name: The Meadows Inpatient Unit Location: The Meadows, West Park Road, Epsom, KT19 8PH Classification: Hospitals **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	988	-	518492 161467
90	**Points of Interest - Commercial Services** Name: M F Demianow Location: Black Barn Forge Horton Park Farm, Horton Lane, Epsom, KT19 8PT Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A13NE (NE)	228	8	519486 162243
90	**Points of Interest - Commercial Services** Name: M F Demianow Location: Black Barn Forge Horton Park Farm, Horton Lane, Epsom, KT19 8PT Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A13NE (NE)	228	8	519486 162243
90	**Points of Interest - Commercial Services** Name: Blackbarn Forge Location: Horton Lane, Epsom, KT19 8PT Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A13NE (NE)	229	8	519486 162243
91	**Points of Interest - Commercial Services** Name: Waterless Car Valeting Location: 12 Galen Close, Epsom, KT19 7DL Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NW (S)	409	8	519167 161692
91	**Points of Interest - Commercial Services** Name: Waterless Car Valeting Location: 12 Galen Close, Epsom, KT19 7DL Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NW (S)	409	8	519167 161692
92	**Points of Interest - Commercial Services** Name: Airwork Location: Flat 8 York Court, Manor Crescent, Epsom, KT19 7EY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	676	8	519298 161414
93	**Points of Interest - Education and Health** Name: Horton Rehabilitation Services Location: 5 Haven Drive, Epsom, KT19 7HA Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A13NE (E)	287	8	519584 162109
94	**Points of Interest - Education and Health** Name: Pine Lodge Location: Pine Lodge, Horton Lane, Epsom, KT19 8PQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8NW (S)	527	8	519189 161567

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
95	**Points of Interest - Education and Health** Name: Horton Hospital Location: Long Grove Road, Epsom, KT19 8PZ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A14SW (SE)	529	8	519755 161842
96	**Points of Interest - Education and Health** Name: Loughta House Location: Loughta House, Horton Lane, Epsom, KT19 8NX Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SW (SW)	735	8	518962 161419
97	**Points of Interest - Education and Health** Name: Ld Campus 8 Location: 8 Ethel Bailey Close, Epsom, KT19 8NQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SE (S)	751	8	519420 161353
97	**Points of Interest - Education and Health** Name: Ld Campus 6 Location: 6 Ethel Bailey Close, Epsom, KT19 8NQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SE (S)	791	8	519391 161308
97	**Points of Interest - Education and Health** Name: Jasmine House Location: 4 Ethel Bailey Close, Epsom, KT19 8NQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SE (S)	793	8	519456 161318
97	**Points of Interest - Education and Health** Name: Ld Campus 3 Location: 3 Ethel Bailey Close, Epsom, KT19 8NQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SE (S)	793	8	519456 161318
97	**Points of Interest - Education and Health** Name: Ld Campus 2 Location: 2 Ethel Bailey Close, Epsom, KT19 8NQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SE (S)	822	8	519431 161283
98	**Points of Interest - Education and Health** Name: Ld Campus 9 Location: 9 Ethel Bailey Close, Epsom, KT19 8NQ Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SE (S)	836	8	519385 161261
99	**Points of Interest - Education and Health** Name: New Epsom and Ewell Cottage Hospital Location: Horton Lane, Epsom, KT19 8PB Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A7NW (SW)	967	8	518390 161664
99	**Points of Interest - Education and Health** Name: New Epsom and Ewell Cottage Hospital Location: Horton Lane, Epsom, KT19 8PB Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A7NW (SW)	967	8	518390 161664
99	**Points of Interest - Education and Health** Name: New Epsom and Ewell Community Hospital Location: Horton Lane, Epsom, KT19 8PB Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A7NW (SW)	968	8	518391 161660
100	**Points of Interest - Education and Health** Name: Oak Glade Campus Location: Oak Glade, Epsom, Surrey, KT19 8NW Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A8SE (S)	986	8	519417 161114

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	44	8	519336 162091
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	51	8	519346 162101
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	67	8	519362 162097
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	68	8	519334 162044
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	84	8	519359 162047
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	90	8	519358 162036
101	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	96	8	519351 162021
102	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	111	8	519356 162007
102	**Points of Interest - Manufacturing and Production** Name: Tank Location: KT19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	118	8	519376 162014
103	**Points of Interest - Public Infrastructure** Name: Heap (Dis) Location: KT19 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	862	8	518464 161755
103	**Points of Interest - Public Infrastructure** Name: Refuse Tip Location: KT19 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	892	8	518438 161740
104	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Mckenzie Way, KT19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NW (N)	149	8	519245 162261

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
104	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	161	8	519250 162274
105	**Points of Interest - Recreational and Environmental** Name: Play Area Location: KT19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	483	8	519439 161637
106	**Points of Interest - Recreational and Environmental** Name: Play Area Location: KT19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	716	8	519495 162802
107	**Points of Interest - Recreational and Environmental** Name: Skatepark Location: KT19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	733	8	519987 161864
107	**Points of Interest - Recreational and Environmental** Name: Play Area Location: KT19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	747	8	520014 161903
108	**Points of Interest - Recreational and Environmental** Name: Play Area Location: KT19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	887	8	518572 161529

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
109	**Ancient Woodland** Name: Not Supplied Reference: 1493603 Area(m²): 8809.59 Type: Ancient and Semi-Natural Woodland	A18SW (NW)	411	9	519098 162487
110	**Ancient Woodland** Name: Not Supplied Reference: 1494146 Area(m²): 38116.13 Type: Ancient and Semi-Natural Woodland	A12NE (W)	540	9	518718 162118
111	**Ancient Woodland** Name: Not Supplied Reference: 1493690 Area(m²): 18277.48 Type: Ancient and Semi-Natural Woodland	A17SE (NW)	601	9	518772 162453
112	**Ancient Woodland** Name: Not Supplied Reference: 1493689 Area(m²): 5253.64 Type: Ancient and Semi-Natural Woodland	A12NE (W)	674	9	518609 162271
113	**Ancient Woodland** Name: Not Supplied Reference: 1493604 Area(m²): 7871.28 Type: Ancient and Semi-Natural Woodland	A12SW (W)	895	9	518396 161852
114	**Ancient Woodland** Name: Not Supplied Reference: 1494094 Area(m²): 12701.84 Type: Ancient and Semi-Natural Woodland	A19NW (NE)	937	9	519686 162967
115	**Areas of Adopted Green Belt** Authority: Epsom And Ewell Borough Council, Planning Department Plan Name: Epsom And Ewell District-Wide Local Plan **Status:** **Adopted** Plan Date: 31st May 2000	A13NW (S)	0	10	519278 162103
116	**Areas of Adopted Green Belt** Authority: Royal Borough of Kingston upon Thames Plan Name: Core Strategy **Status:** **Adopted** Plan Date: 17th April 2012	A17SE (NW)	720	11	518751 162613
117	**Local Nature Reserves** Name: Horton Country Park Multiple Area: N Area (m2): 1523175.91 Source: Natural England Designation Date: 8th December 2004	A13NW (W)	78	9	519187 162127
118	**Nitrate Vulnerable Zones** Name: Hogsmill Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NW (S)	0	4	519278 162103

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Royal Borough of Kingston upon Thames - Environmental Health Department	April 2013	Annual Rolling Update
Environment Agency - Head Office	June 2020	Annually
London Borough of Sutton - Environmental Health Department	October 2017	Annual Rolling Update
Elmbridge Borough Council - Environmental Health Department	September 2017	Annual Rolling Update
Epsom And Ewell Borough Council - Environmental Health Department	September 2017	Annual Rolling Update
Mole Valley District Council - Environmental Health Department	September 2017	Annual Rolling Update
Reigate And Banstead Borough Council - Environmental Health Department	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - Thames Region	October 2021	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Thames Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Thames Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - South East Region - Kent & South London Area	October 21	Quarterly
Environment Agency - South East Region - West Thames Area	October 21	Quarterly
Environment Agency - Thames Region	October 21	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Mole Valley District Council - Environmental Health Department	April 2014	Variable
Elmbridge Borough Council - Environmental Health Department	December 2014	Variable
Royal Borough of Kingston upon Thames - Environmental Health Department	June 2016	Variable
Reigate And Banstead Borough Council - Environmental Health Department	March 2014	Variable
London Borough of Sutton - Environmental Health Department	March 2015	Variable
Epsom And Ewell Borough Council - Environmental Health Department	October 2014	Variable
Local Authority Pollution Prevention and Controls		
Mole Valley District Council - Environmental Health Department	April 2014	Annual Rolling Update
Elmbridge Borough Council - Environmental Health Department	December 2014	Annual Rolling Update
Royal Borough of Kingston upon Thames - Environmental Health Department	June 2016	Annual Rolling Update
Reigate And Banstead Borough Council - Environmental Health Department	March 2014	Annual Rolling Update
London Borough of Sutton - Environmental Health Department	March 2015	Annual Rolling Update
Epsom And Ewell Borough Council - Environmental Health Department	October 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Mole Valley District Council - Environmental Health Department	April 2014	Variable
Elmbridge Borough Council - Environmental Health Department	December 2014	Variable
Royal Borough of Kingston upon Thames - Environmental Health Department	June 2016	Variable
Reigate And Banstead Borough Council - Environmental Health Department	March 2014	Variable
London Borough of Sutton - Environmental Health Department	March 2015	Variable
Epsom And Ewell Borough Council - Environmental Health Department	October 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	August 2021	
Pollution Incidents to Controlled Waters		
Environment Agency - Thames Region	September 1999	
Prosecutions Relating to Authorised Processes		
Environment Agency - Thames Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Thames Region	March 2013	
Registered Radioactive Substances		
Environment Agency - Thames Region	June 2016	Annually
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	Annually

Data Currency

Agency & Hydrological	Version	Update Cycle
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - South East Region - Kent & South London Area	October 2021	Quarterly
Environment Agency - South East Region - West Thames Area	October 2021	Quarterly
Environment Agency - Thames Region - South East Area	October 2021	Quarterly
Water Abstractions		
Environment Agency - Thames Region	October 2021	Quarterly
Water Industry Act Referrals		
Environment Agency - Thames Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Source Protection Zones		
Environment Agency - Head Office	May 2021	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	September 2021	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	September 2021	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	September 2021	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	September 2021	Quarterly
Flood Defences		
Environment Agency - Head Office	September 2021	Quarterly
OS Water Network Lines		
Ordnance Survey	July 2021	Quarterly
Surface Water 1 in 30 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability		
Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	Annually

Data Currency

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	May 2021	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Thames Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - South East Region - Kent & South London Area	October 2021	Quarterly
Environment Agency - South East Region - West Thames Area	October 2021	Quarterly
Environment Agency - Thames Region - South East Area	October 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - Kent & South London Area	October 2021	Quarterly
Environment Agency - South East Region - West Thames Area	October 2021	Quarterly
Environment Agency - Thames Region - South East Area	October 2021	Quarterly
Local Authority Landfill Coverage		
Elmbridge Borough Council - Environmental Health Department	February 2003	Not Applicable
Epsom And Ewell Borough Council - Environmental Health Department	February 2003	Not Applicable
London Borough of Sutton - Environmental Health Department	February 2003	Not Applicable
Mole Valley District Council - Environmental Health Department	February 2003	Not Applicable
Reigate And Banstead Borough Council - Environmental Health Department	February 2003	Not Applicable
Royal Borough of Kingston upon Thames - Environmental Health Department	February 2003	Not Applicable
Surrey County Council	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Elmbridge Borough Council - Environmental Health Department	October 2018	
Epsom And Ewell Borough Council - Environmental Health Department	October 2018	
London Borough of Sutton - Environmental Health Department	October 2018	
Mole Valley District Council - Environmental Health Department	October 2018	
Reigate And Banstead Borough Council - Environmental Health Department	October 2018	
Royal Borough of Kingston upon Thames - Environmental Health Department	October 2018	
Surrey County Council	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Thames Region - South East Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Thames Region - South East Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - Thames Region - South East Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Elmbridge Borough Council	February 2016	Variable
Epsom And Ewell Borough Council - Planning Department	February 2016	Variable
London Borough of Sutton	February 2016	Variable
Mole Valley District Council	February 2016	Variable
Reigate And Banstead Borough Council - Planning Department - Advice Centre	February 2016	Variable
Royal Borough of Kingston upon Thames	February 2016	Variable
Surrey County Council	February 2016	Variable
Planning Hazardous Substance Consents		
Elmbridge Borough Council	February 2016	Variable
Epsom And Ewell Borough Council - Planning Department	February 2016	Variable
London Borough of Sutton	February 2016	Variable
Mole Valley District Council	February 2016	Variable
Reigate And Banstead Borough Council - Planning Department - Advice Centre	February 2016	Variable
Royal Borough of Kingston upon Thames	February 2016	Variable
Surrey County Council	February 2016	Variable

Data Currency

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	December 2015	Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Data Currency

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	October 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2021	Quarterly
Gas Pipelines National Grid	October 2021	Annually
Points of Interest - Commercial Services PointX	December 2021	Quarterly
Points of Interest - Education and Health PointX	December 2021	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2021	Quarterly
Points of Interest - Public Infrastructure PointX	December 2021	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2021	Quarterly
Underground Electrical Cables National Grid	May 2021	Annually

Data Currency

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Elmbridge Borough Council	October 2020	Quarterly
Epsom And Ewell Borough Council - Planning Department	October 2020	Quarterly
London Borough of Sutton	October 2020	Quarterly
Mole Valley District Council	October 2020	Quarterly
Reigate And Banstead Borough Council - Planning Department - Advice Centre	October 2020	Quarterly
Royal Borough of Kingston upon Thames	October 2020	Quarterly
Areas of Unadopted Green Belt		
Elmbridge Borough Council	October 2020	Quarterly
Epsom And Ewell Borough Council - Planning Department	October 2020	Quarterly
London Borough of Sutton	October 2020	Quarterly
Mole Valley District Council	October 2020	Quarterly
Reigate And Banstead Borough Council - Planning Department - Advice Centre	October 2020	Quarterly
Royal Borough of Kingston upon Thames	October 2020	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	January 2021	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	June 2017	Bi-Annually
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Epsom And Ewell Borough Council - Environmental Health Department** Town Hall, The Parade, Epsom, Surrey, KT18 5BY	Telephone: 01372 732400 Fax: 01327 732452 Website: www.epsom-ewell.gov.uk
3	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
4	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Surrey County Council** Penrhyn Road, Kingston-upon-Thames, Surrey, KT1 2DN	Telephone: 020 8541 8800 Fax: 020 8541 9005 Website: www.surreycc.gov.uk
7	**Royal Borough of Kingston upon Thames - Environmental Health Department** Guildhall 2, High Street, Kingston-upon-thames, Surrey, KT1 1EU	Telephone: 0208 547 5757 Fax: 0181 547 5363 Website: www.kingston.gov.uk
8	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
10	**Epsom And Ewell Borough Council - Planning Department** Town Hall, The Parade, Epsom, Surrey, KT19 5BY	Telephone: 01372 732000 Fax: 01372 732452 Website: www.epsom-ewell.gov.uk
11	**Royal Borough of Kingston upon Thames** Guildhall 2, High Street, Kingston-upon-Thames, Surrey, KT1 1EU	Telephone: 020 8547 5331 Fax: 020 8547 5363 Website: www.kingston.gov.uk
12	**Mole Valley District Council** Pippbrook, Dorking, Surrey, RH4 1SJ	Telephone: 01306 885001 Fax: 01306 876821 Website: www.mole-valley.gov.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	RTDU	River Terrace Deposits (Undifferentiated)	Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay and Silt	Not Supplied - Ypresian
	CLGB	Claygate Member	Sand, Silt and Clay	Not Supplied - Ypresian
	LMBE	Lambeth Group	Clay, Silt and Sand	Not Supplied - Thanetian
	TAB	Thanet Formation	Sand	Not Supplied - Thanetian
	LSNCK	Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated)	Chalk	Not Supplied - Turonian

LK GROUP

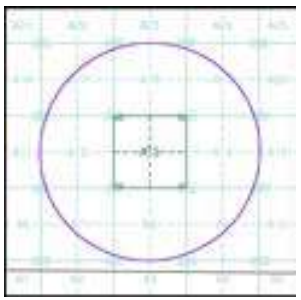
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	**1**
Map Sheet No:	**270**
Map Name:	**South London**
Map Date:	**1998**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Available**
Faults:	**Not Supplied**
Landslip:	**Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice A

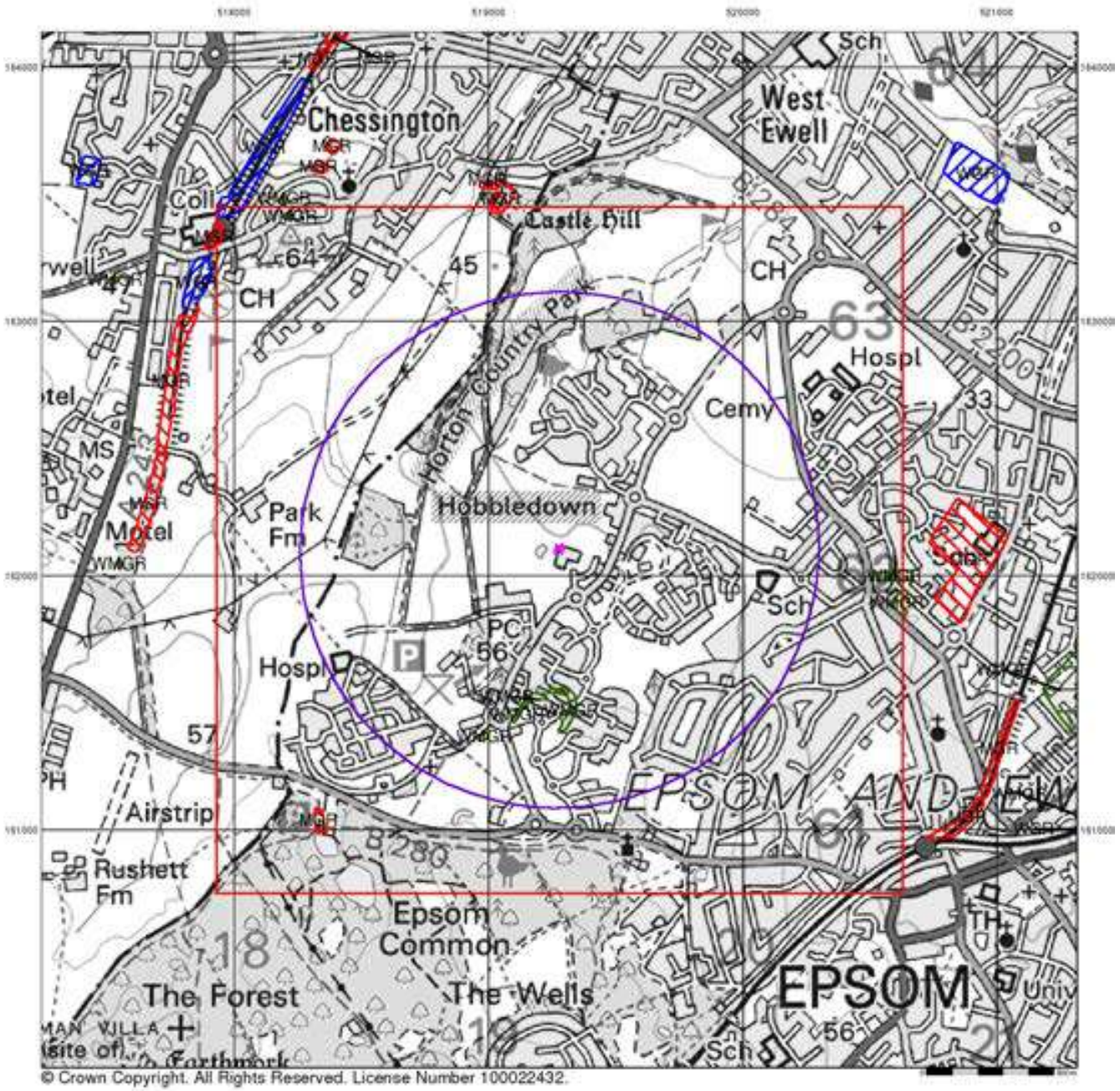


Order Details:

Order Number:	288834020_1_1
Customer Reference:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details:

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



Artificial Ground and Landslip

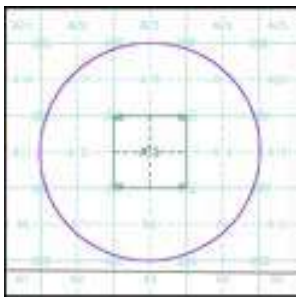
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number:	288834020_1_1
Customer Reference:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details:

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

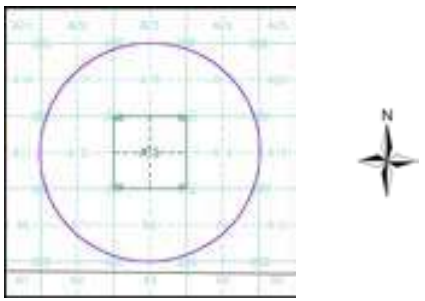
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



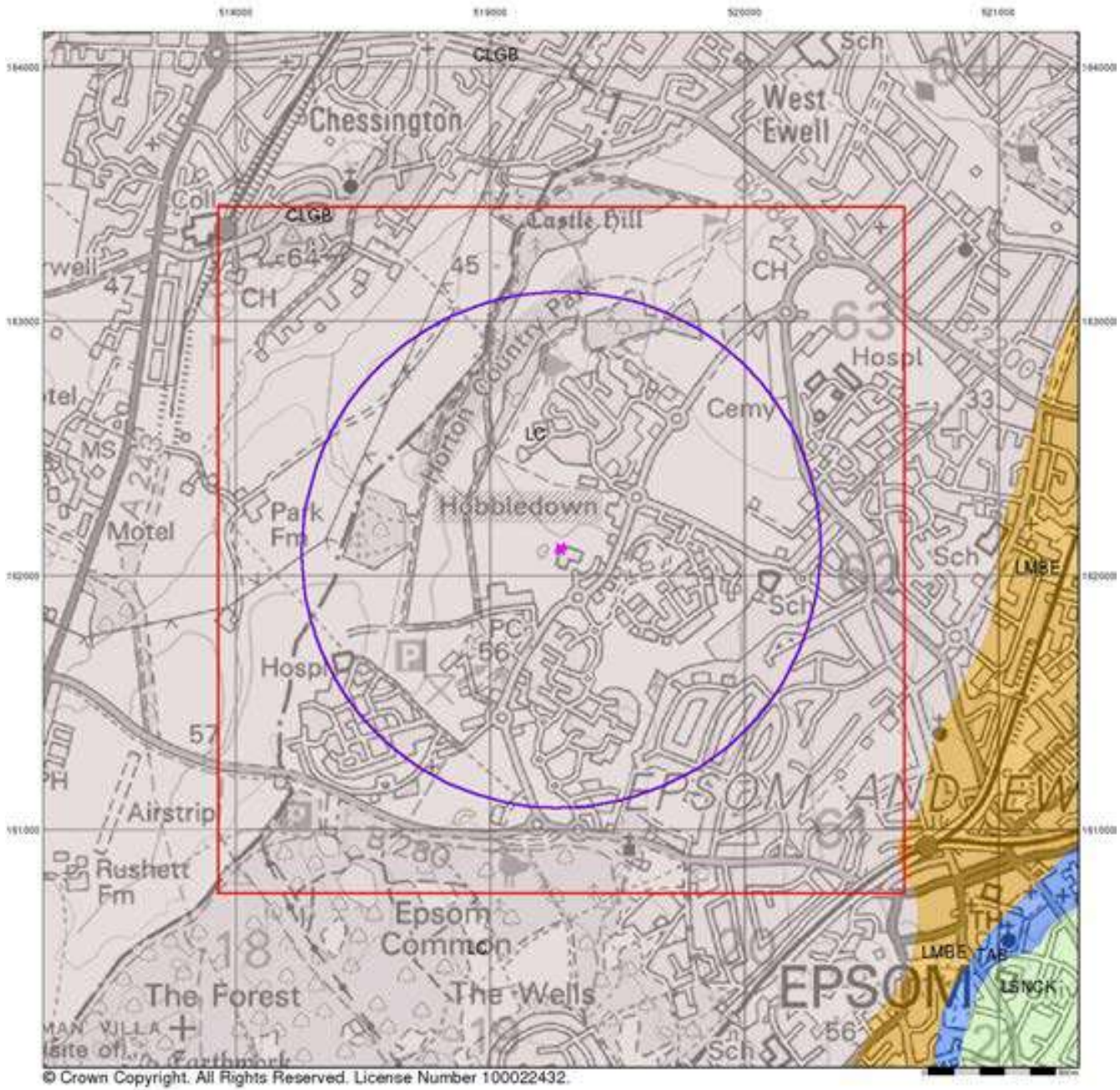
Order Details:

Order Number:	288834020_1_1
Customer Reference:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details:

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Bedrock and Faults

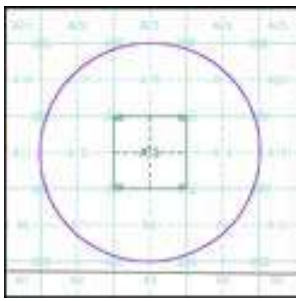
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



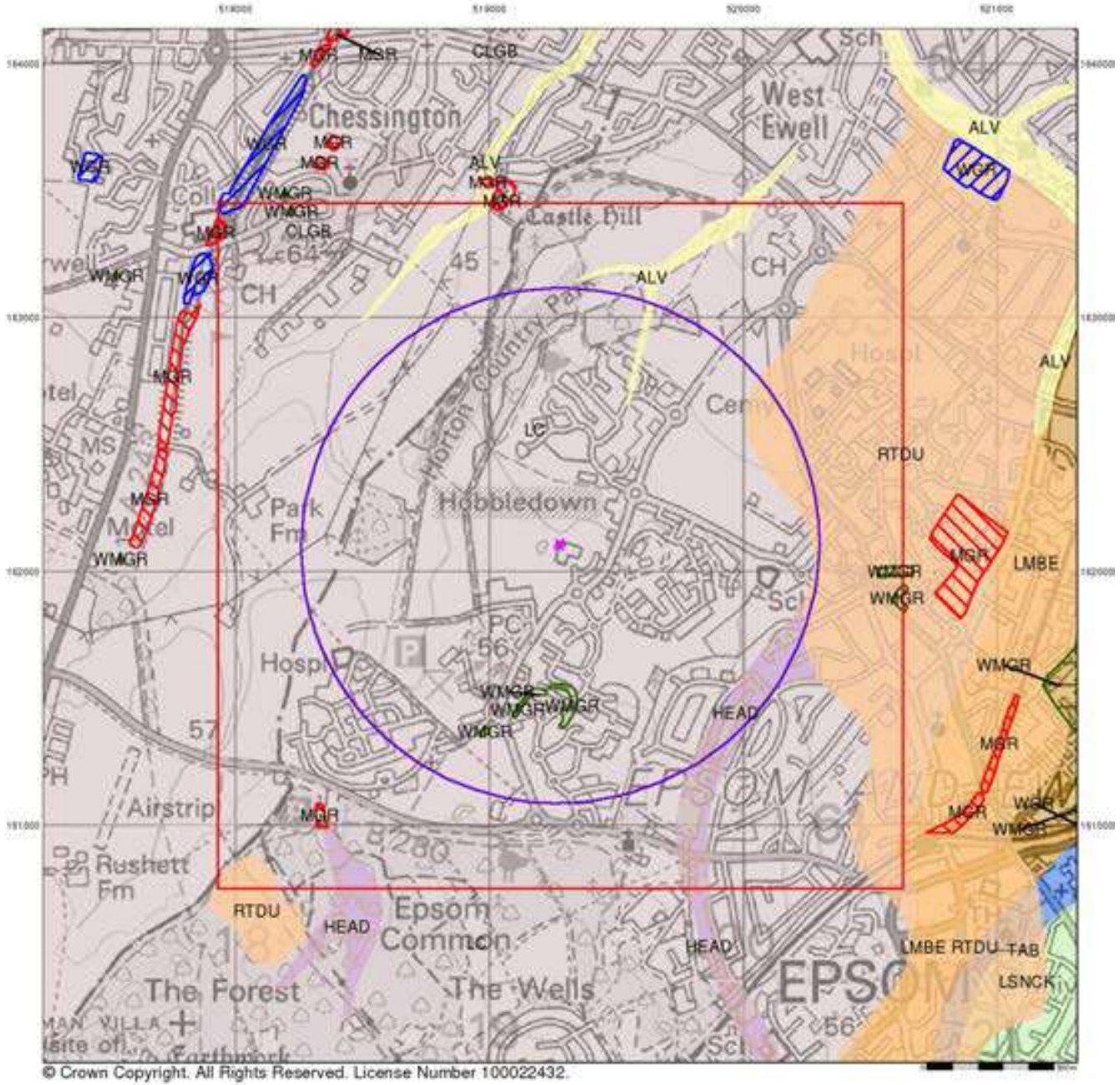
Order Details:

Order Number:	288834020_1_1
Customer Reference:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details:

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

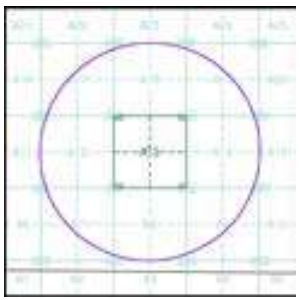
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A

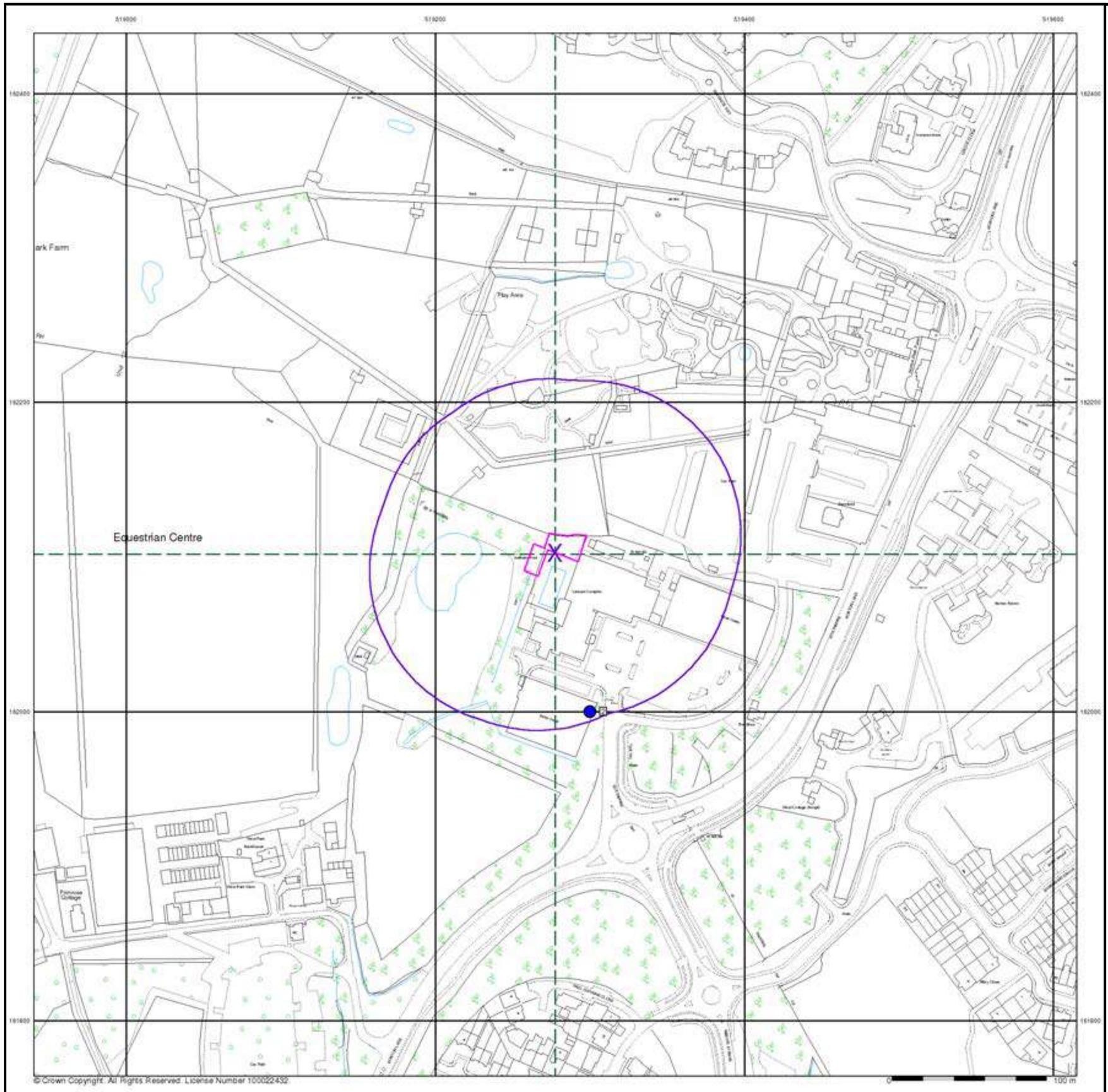


Order Details:

Order Number:	288834020_1_1
Customer Reference:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details:

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LKC GROUP

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

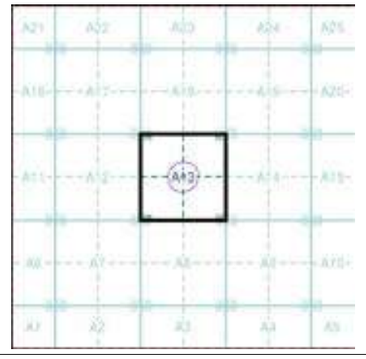
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



Order Details

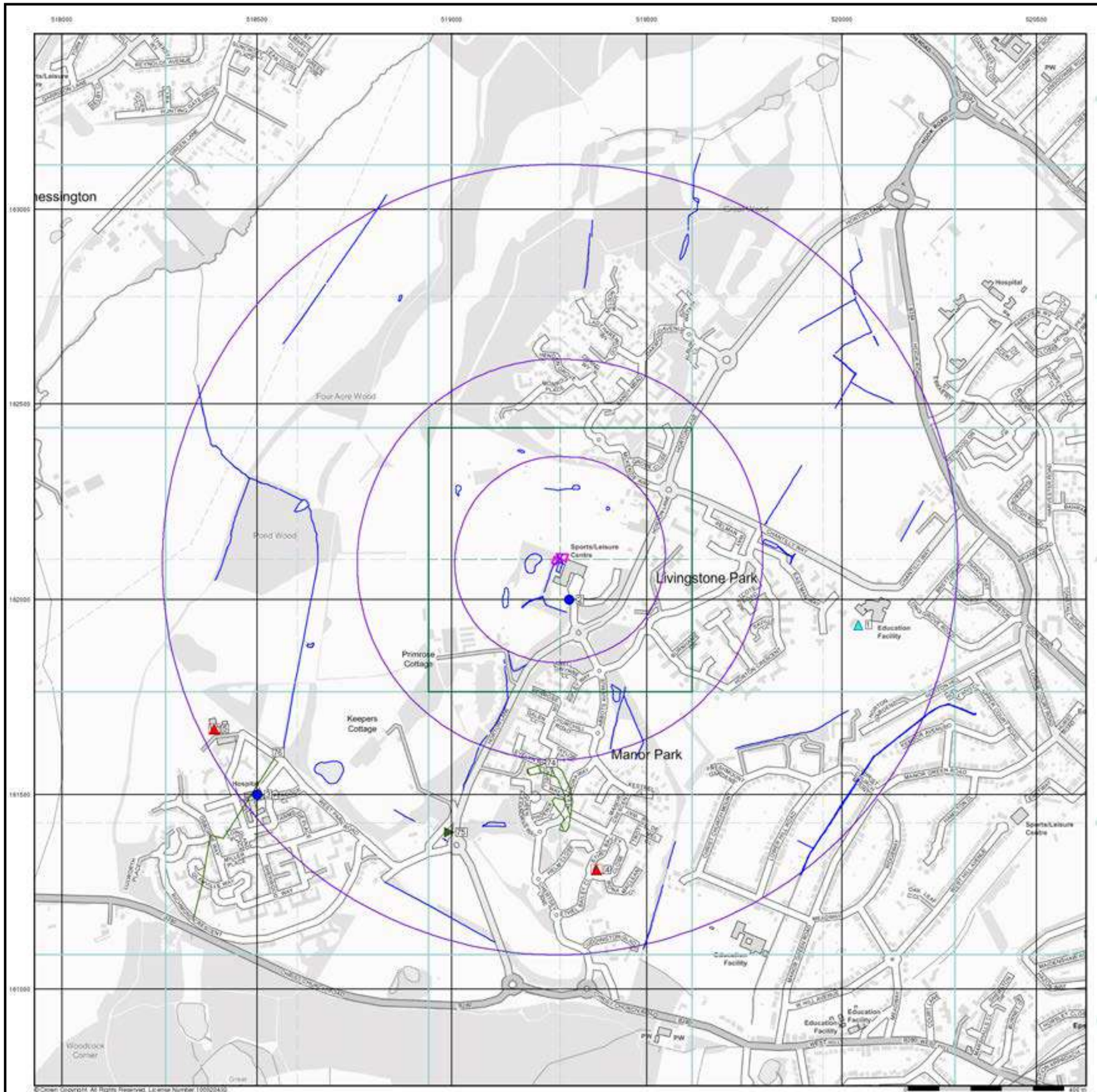
Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Plot Buffer (m):	100

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LK GROUP

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID

Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

COMAH Site | Explosive Site | NIHHS Site

- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

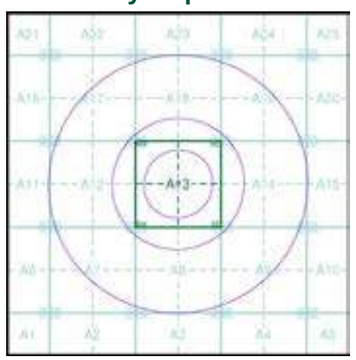
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



Order Details

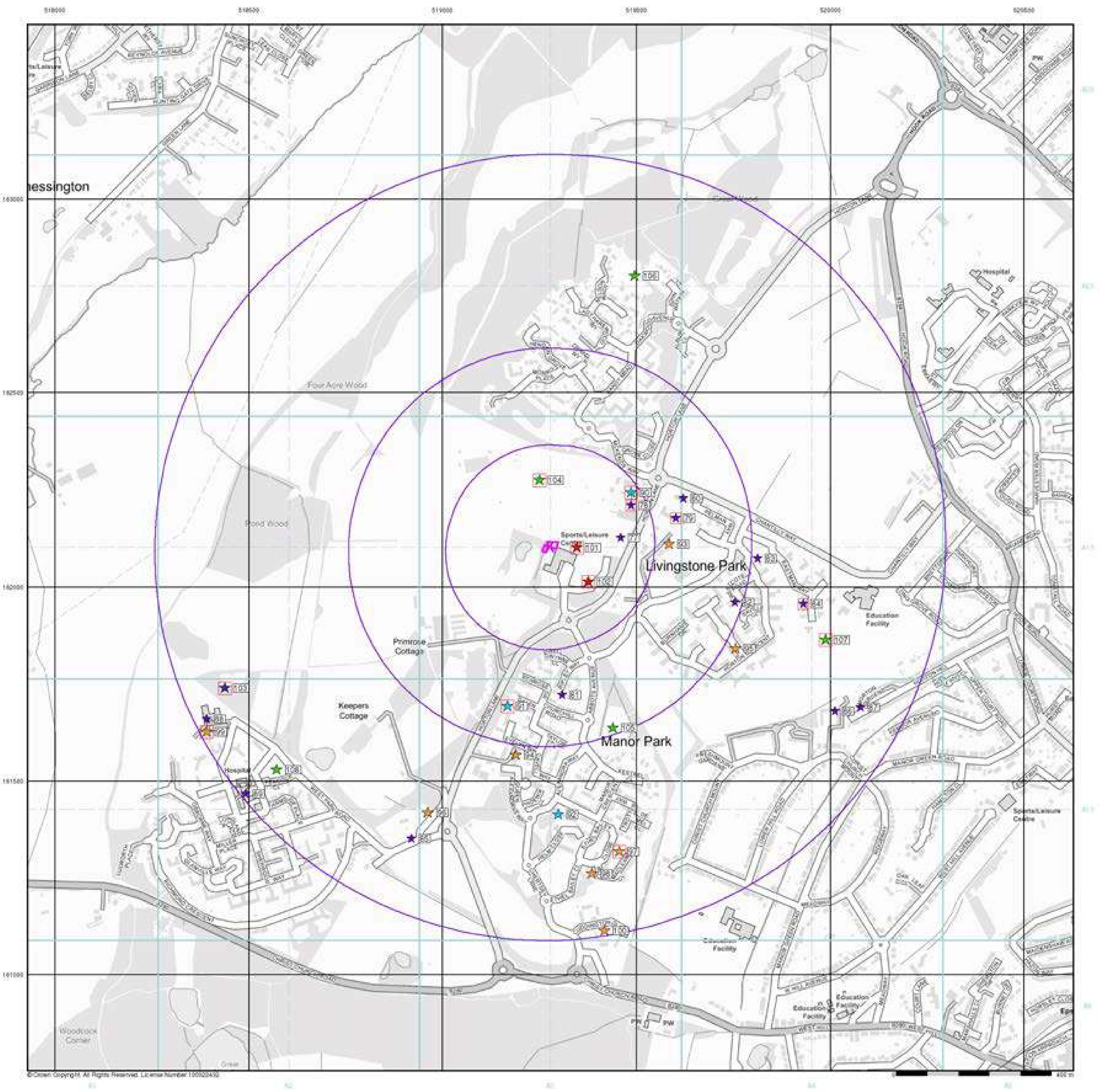
Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Industrial Land Use Map

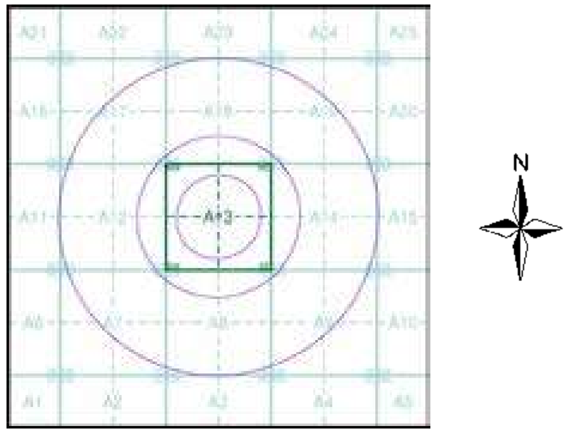
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- ☐ Slice
- 8 Map ID

Industrial Land Use

- ★ Contemporary Trade Directory Entry
- ★ Fuel Station Entry
- Gas Pipeline
- ★ Points of Interest - Commercial Services
- ★ Points of Interest - Education and Health
- ★ Points of Interest - Manufacturing and Production
- ★ Points of Interest - Public Infrastructure
- ★ Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A

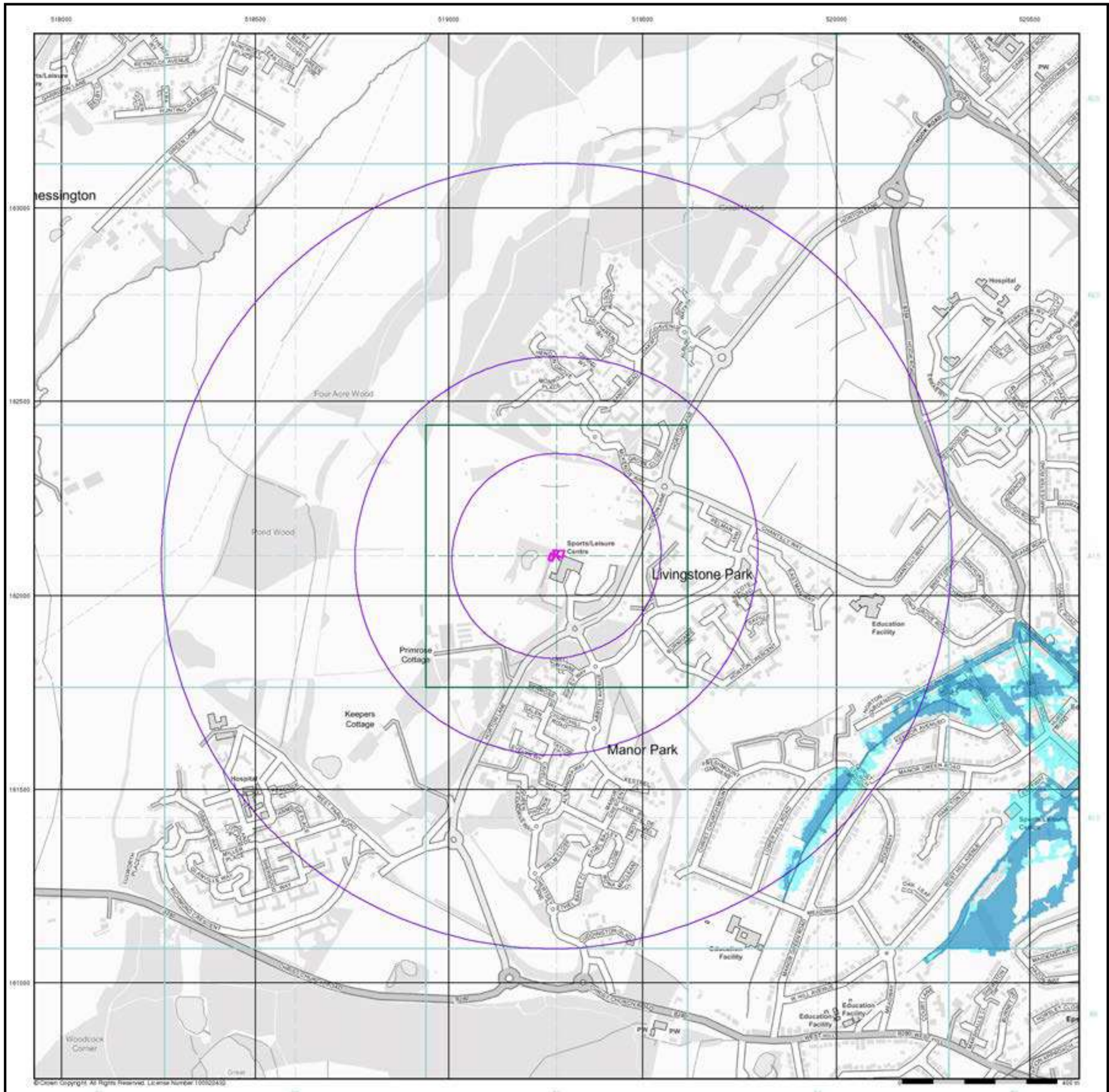


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House,
Horton Lane, EPSOM, KT19 8PL



LK GROUP

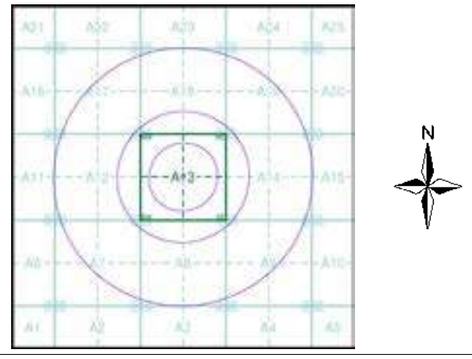
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



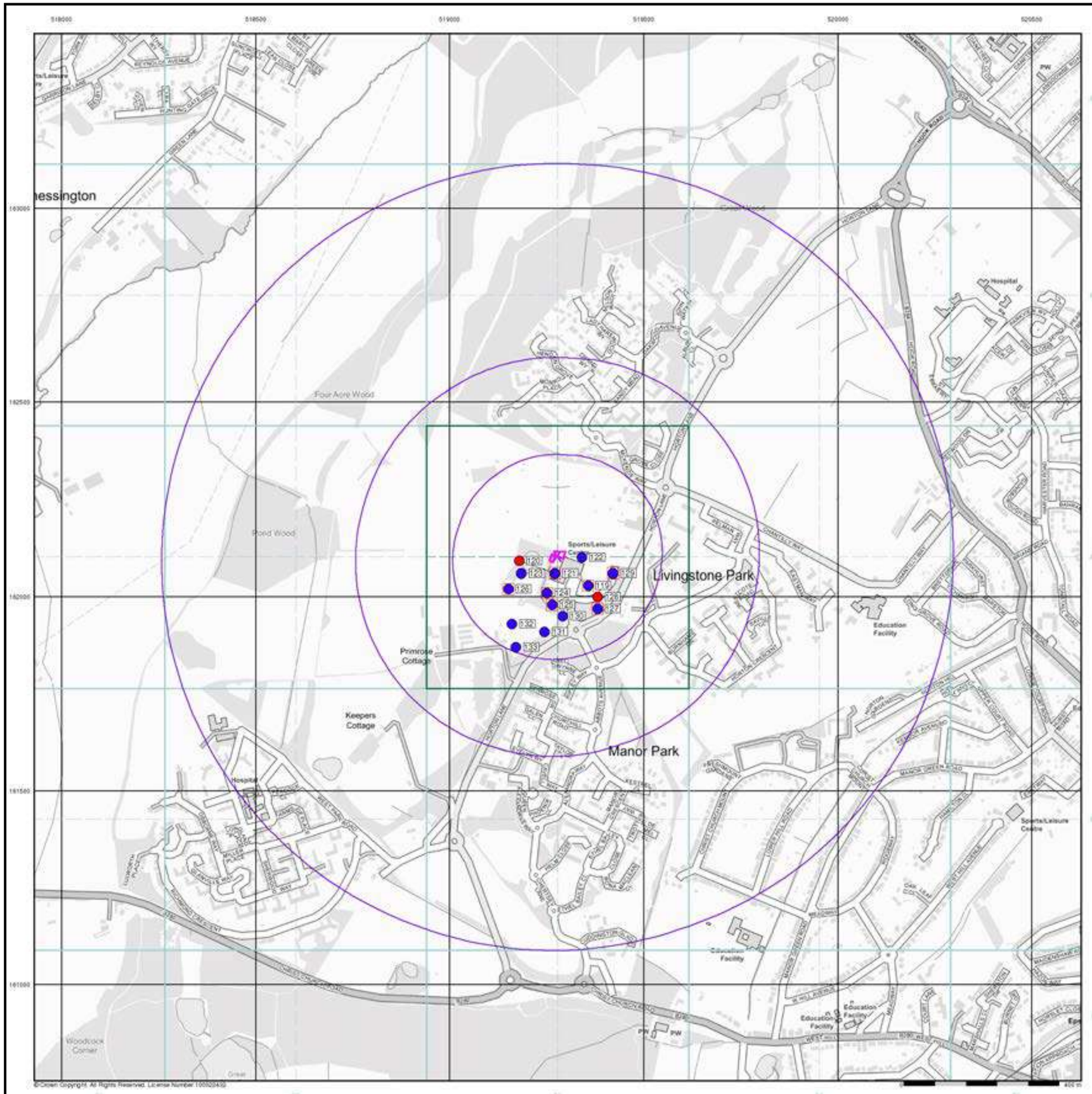
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

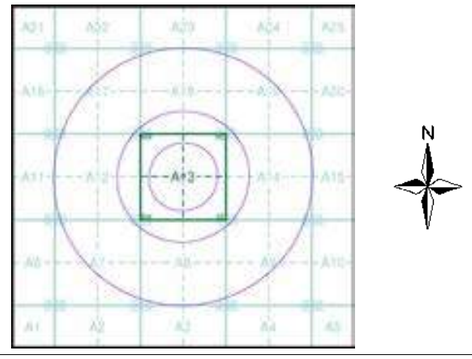
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



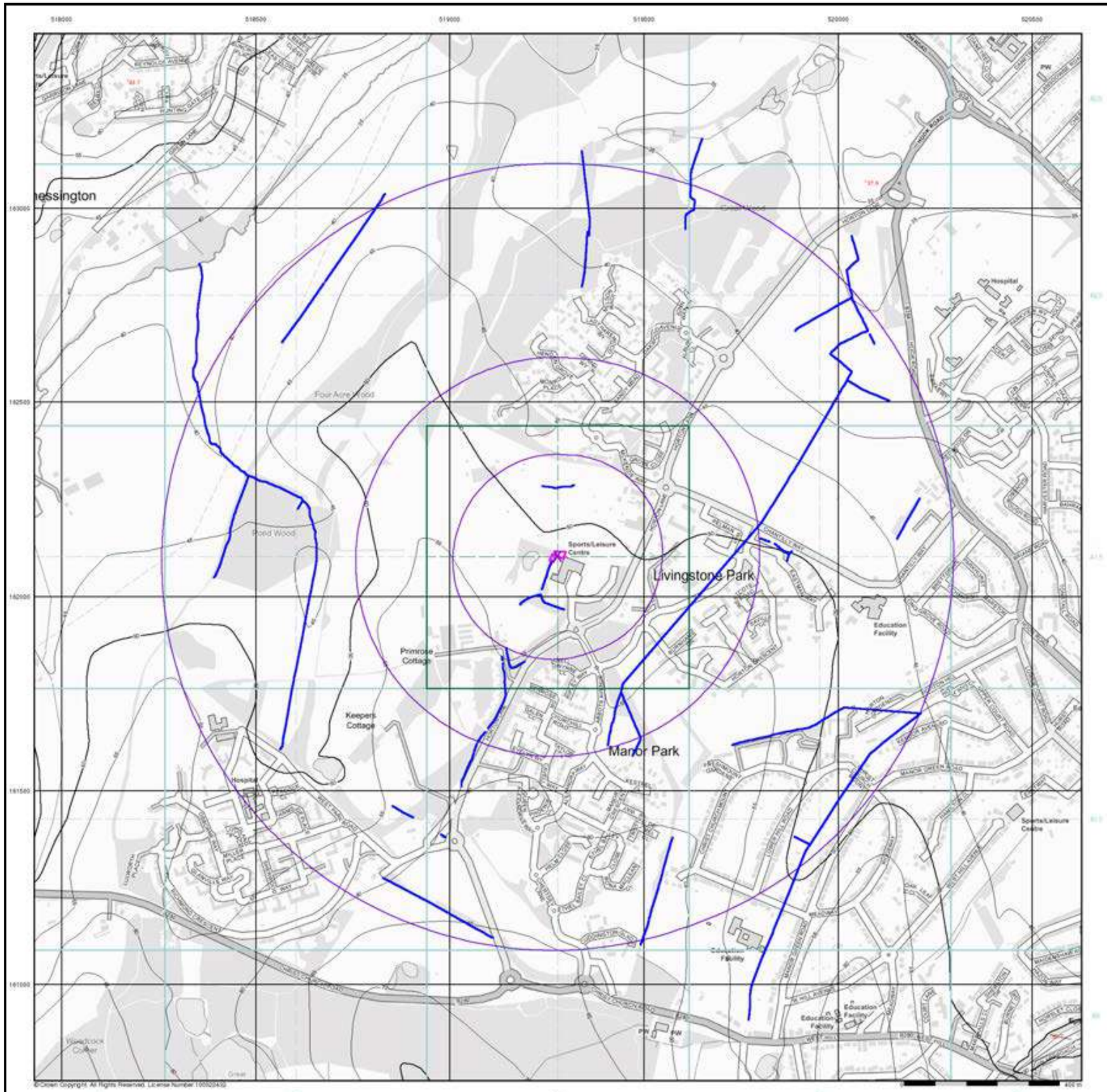
Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



LK GROUP

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

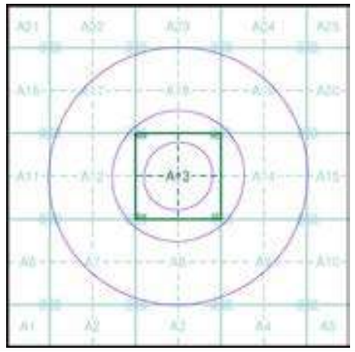
OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A

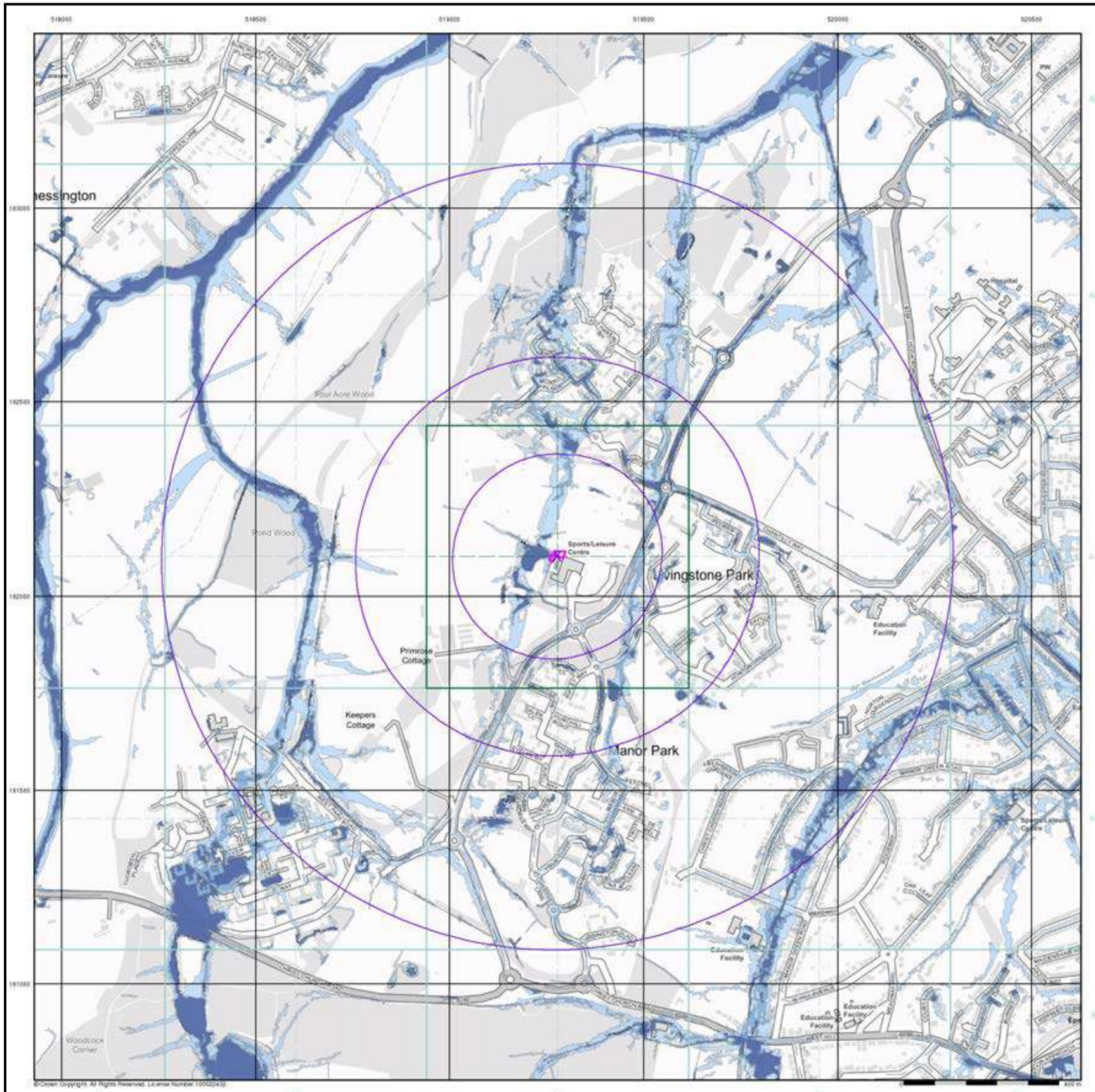


Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL



LK GROUP

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Risk of Flooding from Surface Water

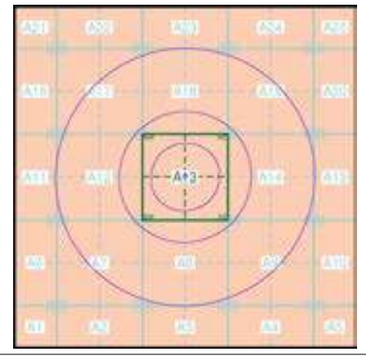
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EA/NRW Suitability Map - Slice A



Order Details

Order Number:	288834020_1_1
Customer Ref:	LKC 21 5152
National Grid Reference:	519280, 162100
Slice:	A
Site Area (Ha):	0.05
Search Buffer (m):	1000

Site Details

David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, EPSOM, KT19 8PL

Appendix C

Historical BGS Boreholes

TQ16SE/49

SOUTH WEST THAMES REGIONAL HEALTH AUTHORITY, EPSOM AND EWELL HEALTH AREA, HORTON HOSPITAL, EPSOM

270/ 212A NGR 51938 16200 (0) HA 39 THAMES WA
IN USE SURFACE z 51.81
ISLER 5098
SHAFT 1.8 *BORE* 135.3 × 279 mm *TOTAL DEPTH* 137.1
Lining tubes 8.83 × 292 mm from 1.52 down;
97.53 × 184 mm from 0.60 down

AQUIFER, LINING TYPE **UCHALK 0 1**

REST WATER LEVEL z 34.74 *5098* z 18.28 *1048* z 19.50 *1050* z 21.03 *1062*
z 22.17 *1063*
PUMPING WATER LEVEL z 10.36 *1050* z 13.41 *1062*

YIELD OR CONSUMPTION 1.5 l/s *5098* 2.5 l/s *35* 5.5 l/s *1050* 5.5 l/s *1062*
Suction -21.33 *35*

	THICKNESS	*DEPTH*
DRIFT 0	1.82	1.82
LNDNCLY0	65.37	67.20
WOCRDGB0	21.64	88.84
THANETB0	5.02	93.87
UCHALK 0	43.28	137.15

270/ 212B NGR 51927 16204 (0) HA 39 THAMES WA
STANDBY SURFACE z 52.12
BAKER *1*
SHAFT 60.5 × 3.0 *BORE* 92.5 × 380 mm reduced to 279 mm at depth TOTAL DEPTH 153.0
Lining tubes 2.74 × 457 mm from 59.43 down;
29.56 × 381 mm from 59.43 down;
29.56 × 304 mm from 66.14 down
Shaft lined

AQUIFER, LINING TYPE **UCHALK 0 1**

REST WATER LEVEL z 30.78 *1* z 23.24 *1161* z 23.85 *362*

YIELD OR CONSUMPTION 2.5 l/s *2012* 2.7 l/s *35*

	THICKNESS	*DEPTH*
MDGRUND0	0.30	0.30
LNDNCLY0	62.17	62.48
WOCRDGB0)		
THANETB0)	31.39	93.87
UCHALK 0	59.13	153.00

SOUTH WEST THAMES REGIONAL HEALTH AUTHORITY, EPSOM AND EWELL HEALTH AREA, WEST PARK HOSPITAL, EPSOM

270/ 212 (2) NGR 51930 16200 (1) HA 39 THAMES WA
COMBINED SITES A and B

AQUIFER, LINING TYPE **UCHALK 0 1**

HYDROCHEMICAL DATA

TOTAL HARDNESS	255	*348*
CHLORIDE	25.0	*348*
T D S	300	*348*

S.W. METROPOLITAN REGIONAL HOSPITAL BOARD, WEST PARK HOSPITAL, EPSOM

270/ 216 NGR 51851 16138 (0) HA 39 THAMES WA
IN USE SURFACE z 51.11
ISLER *613*
SHAFT 3.6 *BORE* 133.8 × 228 mm *TOTAL DEPTH* 137.4
Lining tubes 86.71 × 215 mm from 0.45 down

Trial Pit Number: TP1 Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 Project: CENTRAL BOILER HOUSE, EPSOM

Dated: 22/06/98 Plant Used: JCB Excavator Logged By: RG

Ground Level Trial Pit Dimensions: 2m x 0.6m x 2.4m

Lab Tests	Soil Gas (ppmv)	Samples Depth (m)	Type	Well Installation	Legend	Depth (m)	Description
						0.10	Reinforced Concrete
	ND	0.40	D			0.40	MADE GROUND: loose brown/black sandy gravelly sub-base.
						1.20	MADE GROUND: soft green/black mottled clayey sandy silt
GS	ND	1.60	D			1.60	Soft to firm brown CLAY.
							becoming stiff @ 1.4m bgl
						2.10	becoming soft and sandy @ 1.5m bgl
						2.40	Medium dense slightly clayey SAND and GRAVEL.
							Firm to stiff brown/red/green mottled CLAY.

TRIAL PIT ENDS AT 2.40 m

Remarks:
1. * = Asbestos, Petroleum Hydrocarbons, General Suite.
2. Soil gas readings taken using 10.2eV PID.
3. Trial pit dry.

Key	Date	Depth to Water (m)
Water Strike		
Standing Water		
Disturbed Sample D		
Bulk Sample B		

Trial Pit Number: TP2 Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 Project: CENTRAL BOILER HOUSE, EPSOM

Date: 22/06/98 Plant Used: JCB Excavator Logged By: RG

Ground Level Trial Pit Dimensions: 2m x 0.6m x 2.3m

Lab Tests	Soil Gas (ppmv)	Samples Depth (m)	Type	Depth (m)	Well Installation	Legend	Description
	ND	0.30	D			0.15	Reinforced Concrete
						0.50	MADE GROUND: loose slightly damp black/brown sand and gavel with brick, coal, ash and glass
*	ND	1.00	D	1		1.10	MADE GROUND: soft green/black mottled sandy clayey silt.
							Soft to firm brown slightly silty CLAY.
						1.90	becoming stiff @ 1.4m bgl
GS	ND	2.00	D	2		2.30	becoming soft and sandy @ 1.5m bgl
							Medium dense brown slightly clayey SAND and GRAVEL.
				3			*TRIAL PIT ENDS AT 2.30 m*
				4			
				5			
				6			
				7			
				8			
				9			

Remarks:
1. * = Asbestos, Petroleum Hydrocarbons, General Suite.
2. Soil gas readings taken using 10.2eV PID.
3. Trial pit dry.

Key		Date	Depth to Water (m)
Water Strike			
Standing Water			
Disturbed Sample	D		
Bulk Sample	B		

British Geological Survey

Version 2.0.6.4

BGS ID: 18433059 : BGS Reference: TQ16SE108
British National Grid (27700) : 519340,162100

Report an issue with this borehole

Trial Pit Number: TP3 Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 Project: CENTRAL BOILER HOUSE, EPSOM

Date(s): 22/06/98 Plant Used: JCB Excavator Logged By: RG

Ground Level Trial Pit Dimensions: 2m x 0.6m x 3m

Lab Tests	Soil Gas (ppmv)	Samples Depth (m)	Type	Well Installation	Legend	Description
						0.13 Reinforced Concrete
						0.40 MADE GROUND: loose brown/black sand and gravel sub-base.
Asb/GS	ND	0.60	D			
Asb ID		0.70	B			
Asb ID		0.70	B			
Asb ID		0.70	B			
Asb ID	ND	0.70	B			
Asb		1.30	D			1.00 MADE GROUND: loose black coal/ash layer with visible fragments of potential Asbestos-Containing Material (ACM).
						1.60 MADE GROUND: soft black/green mottled sandy silty clay. becoming stiff @ 1.4m bgl
						2.30 becoming soft and sandy @ 1.5m bgl
GS	ND	2.60	D			2.90 Firm to stiff brown/green mottled CLAY with occasional silty sand lenses.
						3.00 Medium dense to dense orange/green mottled slightly clayey SAND and GRAVEL.
						Dry stiff to firm red/brown CLAY.
						TRIAL PIT ENDS AT 3.00 m

Remarks:
1. Four fragments of potential ACM submitted for Asbestos ID.
2. Soil gas readings taken using 10.2eV PID.
3. Trial pit dry.

Key	Date	Depth to Water (m)
Water Strike		
Standing Water		
Disturbed Sample D		
Bulk Sample B		

British Geological Survey

Version 2.0.6.4

BGS ID: 18433061 : BGS Reference: TQ16SE109
British National Grid (27700) : 519360,162080

Report an issue with this borehole

Trial Pit Number: TP4 Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 Project: CENTRAL BOILER HOUSE EPSOM

Date(s): 22/06/98 Plant Used: JCB Excavator Logged By: RG

Ground Level: Trial Pit Dimensions: 2m x 0.6m x 3m

Lab Tests	Soil Gas (ppmv)	Samples Depth (m)	Type	Well Installation	Legend	Description
					0.15	MADE GROUND: medium sized grey/brown limestone hardcore.
*	ND	0.70	D		0.70	MADE GROUND: loose red/brown sandy limestone hardcore
					0.90	MADE GROUND loose yellow/light brown hardcore with **concrete, textile and plastic.**
GS/TPH	ND	1.50	D		1.60	MADE GROUND: loose black ash/clinker and coal layer.
					2.10	MADE GROUND: **soft green/black mottled clayey sandy silt.** becoming stiff @ 1.4m bgl becoming soft and sandy @ 1.5m bgl
	ND	2.50	D		2.90	Soft to firm orange/brown/green mottled sandy gravelly CLAY.
						Dense brown slightly clayey SAND and GRAVEL.

TRIAL PIT ENDS AT 3.00 m

Remarks:
1. * = Asbestos, PCBs, General Suite.
2. Soil gas readings taken using 10.2eV PID.
3. Trial pit dry.

Key	Date	Depth to Water (m)
Water Strike		
Standing Water		
Disturbed Sample D		
Bulk Sample B		

Trial Pit Number TP8 Job Number C2453

EAG ENVIRON

Sheet 1 of 1 Project: CENTRAL BOILER HOUSE, EPSOM

Date(s) 24/06/98 Plant Used [illegible] excavator Logged By

Ground Level Trial Pit Dimensions 2m x 0.6m x 2.9m RG

Lab. Tests	Soil Gas (ppmv)	Samples Depth (m)	Samples Type	Depth (m)	Well Installation	Legend	Description
						0.20	MADE GROUND: tarmac over loose sandy gravel sub-base with brick, concrete and ash
						0.30	
Asb/GS	ND	0.50	D			0.60	MADE GROUND: tarmac layer (former road surface).
				1			MADE GROUND: loose damp sandy gravel sub-base.
						1.40	MADE GROUND: soft green/black sandy clay.
	ND	2.00	D	2	▼		Soft to firm brown/orange silty CLAY with occasional sand lenses.
							becoming gravelly @ 2.2m bgl.
				3		2.90	
							TRIAL PIT ENDS AT 2.90 m
				4			
				5			
				6			
				7			
				8			
				9			

Remarks:
1. Slow water ingress @ 2m bgl.
2. Soil gas readings taken using 10.2eV PID.

Key		Date	Depth to Water (m)
Water Strike	▽	24/06/98	2.00
Standing Water	▼		
Disturbed Sample	D		
Bulk Sample	B		

Trial Pit Number: TP9 | Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 | Project: CENTRAL BOILER HOUSE, EPSOM

Date(s): 22/6/13 | Plant Used: CB Excavator | Logged By: RG

Ground Level | Trial Pit Dimensions: 2m x 0.6m x 2.7m

Lab. Tests	Soil Gas (ppm)	Samples Depth (m)	Samples Type	Depth (m)	Well Installation	Legend	Description
*	ND	0.40	D				MADE GROUND: tarmac
							MADE GROUND: loose black/brown fill with ash/clinker, coal, brick and glass.
				0.90			Firm to stiff brown/green mottled silty CLAY with occasional silty sand lenses.
GS	ND	2.00	D				becoming very sandy @ 1.9m bgl.
							becoming brown/green m,mottled CLAY @ 2.3m bgl.
				2.70			*TRIAL PIT ENDS AT 2.70 m*

Remarks:
1. * = Asbestos, TPH, General Suite.
2. Soil gas readings taken using 10.2eV PID.
3. Trial pit dry.

Key		Date	Depth to Water (m)
Water Strike			
Standing Water			
Disturbed Sample	D		
Bulk Sample	B		

Trial Pit Number TP10 | Job Number C2453

EAG ENVIRON

Sheet 1 of 1 | Project: CENTRAL BOILER HOUSE, EPSOM

Date(s): 22/06/98 | Plant Used: JCB Excavator | Logged By: RG

Ground Level | Trial Pit Dimensions: 2m x 0.6m x 1.3m

Lab Tests	Soil Gas (ppmv)	Samples Depth (m)	Samples Type	Depth (m)	Well Installation	Legend	Description
				0.05			MADE GROUND: tarmac
Asb/GS	ND	0.60	D				MADE GROUND: loose sandy gravel-boulder hardcore with concrete, brick and brick walls on two sides of excavation (infilled chamber).
				1.30			*TRIAL PIT ENDS AT 1.30 m*

Remarks:
1. Fast water ingress @ 1.1m bgl.
2. Trial pit abandoned due to water ingress and unstable sides.
3. Soil Gas readings taken using 10.2 eV PID.

Key		Date	Depth to Water (m)
Water Strike	▽	22/06/98	1.10
Standing Water	▼		
Disturbed Sample	D		
Bulk Sample	B		

Trial Pit Number TP19 Job Number C2453

EAG ENVIRON

Sheet 1 of 1 Project CENTRAL BOILER HOUSE, EPSOM

Date 27/05/98 Plant Used JCB Excavator Logged By RG

Ground Level: Trial Pit Dimensions: 2m x 0.6m x 2.7m

Lab Tests	Soil Gas (mmHg)	Samples Depth (m)	Type	Water Strike	Well Details	Legend	Description
						0.15	TOPSOIL
Asb	ND	0.70	D				Soft to firm orange/brown mottled CLAY with occasional sand lenses.
GS	ND	1.70	D				becoming more sandy @ 1.7m bgl
						2.00	Soft to firm brown/blue CLAY.
						2.40	*TRIAL PIT ENDS AT 2.70 m*

Remarks:
1. Soil gas readings taken using 10.2eV PID.
2. Trial pit dry.

Key	Date	Depth to Water (m)
Water Strike		
Standing Water		
Disturbed Sample D		
Bulk Sample B		

Trial Pit Number: TP26 | Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 | Project: CENTRAL BOILER HOUSE, EPSOM

Date(s): [illegible] | Plant Used: [illegible] Excavator | Logged By: RG

Ground Level | Trial Pit Dimensions: 2m x 0.6m x 1.8m

Lab. Tests	Soil Gas (ppm v/v)	Samples Depth (m)	Samples Type	Depth (m)	Well	Legend	Description
Asb/GS	ND	0.25	D				0.20 TOPSOIL
							Soft to firm orange/brown sandy CLAY with occasional gravel lenses
	ND	1.60	D				
							1.80
							TRIAL PIT ENDS AT 1.80 m

Remarks:
1. Slow water ingress @ 1.5m bgl.
2. Soil gas readings taken using 10.2eV PID.

Key		Date	Depth to Water (m)
Water Strike	▽	24/06/98	1.50
Standing Water	▼		
Disturbed Sample	D		
Bulk Sample	B		

Trial Pit Number: TP29

Job Number: C2453

EAG ENVIRON

Sheet 1 of 1

Project: CENTRAL BOILER HOUSE, EPSOM

Dates: 24/06/98

Plant Used: JCB Excavator

Logged By: RG

Ground Level

Trial Pit Dimensions: 2m x 0.6m x 1.8m

Lab Tests	Soil Gas (ppmv)	Samples Depth (m)	Type	Depth (m)	Well Installation	Legend		Description
TPH/VOCs	4	0.30	D				0.30	TOPSOIL
							0.60	MADE GROUND: loose black ash/clinker and coal (moderate hydrocarbon odour)
	140	1.00	D	1			0.80	
							1.10	MADE GROUND: loose red/brown sand and gravel fill with brick fragments (moderate hydrocarbon odour).
								MADE GROUND: soft grey/black slightly silty clay with frequent gravel (strong hydrocarbon odour).
							1.80	
				2				Firm orange/brown mottled CLAY.
								TRIAL PIT ENDS AT 1.80 m
				3				
				4				
				5				
				6				
				7				
				8				
				9				

Remarks:
1. * = Asb/TPH/GS.
2. Soil gas readings taken using 10.2eV PID.
3. Trial pit dry.

Key		Date	Depth to Water (m)
Water Strike	▽		
Standing Water	▼		
Disturbed Sample	D		
Bulk Sample	B		

British Geological Survey

Version 2.0.6.4

BGS ID: 18433092 : BGS Reference: TQ16SE135
British National Grid (27700) : 519330,162080

Report an issue with this borehole

Trial Pit Number: TP30 | Job Number: C2453 | EAG ENVIRON

Sheet 1 of 1 | Project: CENTRAL BOILER HOUSE, EPSOM

Dated: 24/10/98 | Plant Used: JCB Excavator | Logged By: RG

Ground Level | Trial Pit Dimensions: 2m x 0.6m x 0.5m

Lab Test	Soil Gas (ppmV)	Samples Depth (m)	Type	Depth (m)	Well Installation	Legend	Description
Asb ID		0.30	B				0.20 Reinforced Concrete.
							0.50 MADE GROUND: loose sandy gravelly sub-base. Obstruction @ 0.5m bgl - Borehole abandoned.
							TRIAL PIT ENDS AT 0.50 m

Remarks:
1. Trial pit abandoned @ 0.5m bgl due to concrete obstruction.
2. Potential ACM submitted for ID @ 0.3m bgl.
3. Soil gas readings taken using 10.2eV PID.
4. Trial pit dry.

Key	Date	Depth to Water (m)
Water Strike		
Standing Water		
Disturbed Sample D		
Bulk Sample B		

Trial Pit Number: TP31 | Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 | Project: CENTRAL BOILER HOUSE, EPSOM

Date(s): 24/06/98 | Plant Used: JCB Excavator | Logged By: RG

Ground Level | Trial Pit Dimensions: 2m x 0.6m x 1.8m

Lab. Tests	Soil Gas (ppmv)	Samples Depth (m)	Samples Type	Depth (m)	Well Installation	Legend	Description
							MADE GROUND: loose black/brown ash, clinker, brick, concrete, metal and ceramic fragments in a silty clayey sand matrix. Obstruction @ 1.8m bgl - Borehole abandoned.
Asb/GS	GS	1.00	D	1			
				1.80			
				2			TRIAL PIT ENDS AT 1.80 m
				3			
				4			
				5			
				6			
				7			
				8			
				9			

Remarks:
1. Trial pit abandoned @ 1.8m bgl due to concrete obstruction.
2. Soil gas readings taken using 10.2eV PID.
3. Trial pit dry.

Key		Date	Depth to Water (m)
Water Strike			
Standing Water			
Disturbed Sample	D		
Bulk Sample	B		

Trial Pit Number: TP32 | Job Number: C2453

EAG ENVIRON

Sheet 1 of 1 | Project: CENTRAL BOILER HOUSE, EPSOM

Date: 24/06/38 | Plant Used: JCB Excavator | Logged By: RG

Ground Level | Trial Pit Dimensions: 2m x 0.6m x 1.2m

Soil Gas (ppmiv)	Samples Depth (m)	Type	Well Installation	Legend	Description
ND	0.30	D		0.15	TOPSOIL
				0.75	MADE GROUND: loose brick, concrete and ash fill in black/brown silty clayey sandy matrix.
				1.20	Soft to firm orange/brown CLAY.
					TRIAL PIT ENDS AT 1.20 m

Remarks:
1. Soil gas readings taken using 10.2eV PID.
2. Trial pit dry.

Key	Date	Depth to Water (m)
Water Strike		
Standing Water		
Disturbed Sample D		
Bulk Sample B		

SOUTH WEST THAMES REGIONAL HEALTH AUTHORITY, EPSOM AND EWELL HEALTH AREA, HORTON HOSPITAL, EPSOM

270 212A NGR 51938 16200 (0) HA 39 THAMES WA
IN USE SURFACE z 51.81
ISLER 5098
SHAFT 1.8 *BORE* 135.3 × 279 mm *TOTAL DEPTH* 137.1
Lining tubes 8.83 × 292 mm from 1.52 down;
97.53 × 184 mm from 0.60 down

AQUIFER, LINING TYPE **UCHALK 0 1**

REST WATER LEVEL z 34.74 *5098* z 18.28 *1048* z 19.50 *1050* z 21.03 *1062*
z 22.17 *1063*
PUMPING WATER LEVEL z 10.36 *1050* z 13.41 *1062*

YIELD OR CONSUMPTION 1.5 l/s *5098* 2.5 l/s *35* 5.5 l/s *1050* 5.5 l/s *1062*
Suction −21.33 *35*

	THICKNESS	*DEPTH*
DRIFT 0	1.82	1.82
LNDNCLY0	65.37	67.20
WOCRDGB0	21.64	88.84
THANETB0	5.02	93.87
UCHALK 0	43.28	137.15

TQ16 SE/47

270 212B NGR 51927 16204 (0) HA 39 THAMES WA
STANDBY SURFACE z 52.12
BAKER 1
SHAFT 60.5 × 3.0 *BORE* 92.5 × 380 mm reduced to 279 mm at depth TOTAL DEPTH 153.0
Lining tubes 2.74 × 457 mm from 59.43 down;
29.56 × 381 mm from 59.43 down;
29.56 × 304 mm from 66.14 down
Shaft lined

AQUIFER, LINING TYPE **UCHALK 0 1**

REST WATER LEVEL z 30.78 *1* z 23.24 *1161* z 23.85 *362*

YIELD OR CONSUMPTION 2.5 l/s *2012* 2.7 l/s *35*

	THICKNESS	*DEPTH*
MDGRUND0	0.30	0.30
LNDNCLY0	62.17	62.48
WOCRDGB0)		
THANETB0)	31.39	93.87
UCHALK 0	59.13	153.00

SOUTH WEST THAMES REGIONAL HEALTH AUTHORITY, EPSOM AND EWELL HEALTH AREA, WEST PARK HOSPITAL, EPSOM

270 212 (2) NGR 51930 16200 (1) HA 39 THAMES WA
COMBINED SITES A and B

AQUIFER, LINING TYPE **UCHALK 0 1**

HYDROCHEMICAL DATA

TOTAL HARDNESS	255	*348*
CHLORIDE	25.0	*348*
T D S	300	*348*

S.W. METROPOLITAN REGIONAL HOSPITAL BOARD, WEST PARK HOSPITAL, EPSOM

270 216 NGR 51851 16138 (0) HA 39 THAMES WA
IN USE SURFACE z 51.11
ISLER 613
SHAFT 3.6 *BORE* 133.8 × 228 mm *TOTAL DEPTH* 137.4
Lining tubes 86.71 × 215 mm from 0.45 down

285

BGS ID: 580269 : BGS Reference: TQ16SE49
British National Grid (27700) : 519380,162000

TQ16SE/49

270/17

21

Epsom.

Ordnance Maps 270, 286, new ser. Geological Map 8.

1. Horton Manor Estate (London County Council Asylum). 1894 ?
Central Station, a little W. of Horton Lane in field 110 of the Ordnance Map.
170 Feet above Ordnance Datum.

Made and communicated by Messrs. Isler and from later notes by Mr. W. C. C. Smith, Engineer to the Asylums Committee.

Lined with 29 feet of tube, of 11¼ inches diameter, 5 feet down; and with 320 feet, of 7½ inches diameter, 2 feet down.
Water-level 56 feet down (140 W. C. C. S.). Supply 1,200 gallons an hour (2,300 W.C.C.S.).

		Thickness. Feet.	Depth. Feet.
Well (the rest bored)		—	6
[London Clay.]	Brown clay	6	12
	Claystone	6	18
	Brown clay	6	24
	Brown clay and sandstone [septaria?]	122	146
	Brown clay	3	149
	Blue clay	9	158
	Sandy clay and stone	10	168
	Hard sandy clay	15½	183½
[Reading Beds, 71 feet.]	Variegated clay	37	220½
	Variegated clay and sand	10½	231
	Variegated clay	6	237
	London [? bluish-grey] clay ...	6	243
	Green sand	14	257
	Brown mottled clay	8	265
	Sand and clay	11½	276½
	Clayey green sand	2½	279
	Green sand and pebbles	6	285
[Thanet Sand, 16½ feet.]	Grey sand	6½	291½
	Green sand	14	233
	Flint	14	307
[Upper] Chalk and flints		1	308
		142	450

An account of another well or boring here, made and communicated by Messrs. Baker, is as follows.

		Thickness. Feet.	Depth. Feet.
Mould		1	1
[London Clay.]	Brickearth	19	20
	Clay, a foot and then claystone, a foot	2	22
	Blue clay, with claystone at 53–53½, 71-72, 77-77½, 91-91½, 127½-128, 136-136½, 158½-160. At base 3 inches of claystone (with water), petrified wood and then 3 inches of pyrites	151	173
	Sandy clay	25	198
	Brown sand [? Basement-bed] ...	7	205
[Reading Beds and Thanet Sand, 103 feet.]	Coloured [mottled] clay	10	215
	Green clay	12	227
	Grey sand with 2 inches of pebbles at top, and 4 inches at base ...	17	244
	Mottled clay [? some error] ...	62	306
	Brown sand	1	307
[Upper] Chalk		1	308
		194	502

Mr. W. C. C. Smith, the Asylums' Engineer of the L.C.C., tells us that the well here is 198½ feet deep (shaft and cylinders) with a boring to the depth of 500 feet (lined to 311), the depth to the Chalk being 309. The normal water-level is 70 feet down. His account of the trial boring, 350 feet off, differs from both the above sections; but seems to refer to the first.

Published in
'The Water Supply
of Surrey',
page 157, 158

BGS ID: 580267 : BGS Reference: TQ16SE47
British National Grid (27700) : 519270,162060

Report an issue with this borehole

TQ 16 / 17

TQ.16 SE/47

270

21

Epsom.

Ordnance Maps 270, 286, new ser. Geological Map 8.

1. Horton Manor Estate (London County Council Asylum). 149ft ?

Central Station, a little W. of Horton Lane in field 110 of the Ordnance Map.

170 Feet above Ordnance Datum.

Made and communicated by Messrs. Isler and from later notes by Mr. W. C. C. Smith, Engineer to the Asylums Committee.

Lined with 29 feet of tube, of 11¼ inches diameter, 5 feet down; and with 320 feet, of 7½ inches diameter, 2 feet down.

Water-level 56 feet down (140 W. C. C. S.). Supply 1,200 gallons an hour (2,300 W.C.C.S.).

		Thickness. Feet.	Depth. Feet.
	Well (the rest bored)	—	6
[London Clay.]	Brown clay	6	12
	Claystone	6	18
	Brown clay	122	140
	Brown clay and sandstone [septaria?]	9	149
	Brown clay	9	158
	Blue clay	10	168
	Sandy clay and stone	16¼	183¼
	Hard sandy clay	37	220¼
[Reading Beds, 71 feet.]	Variegated clay	10¾	231
	Variegated clay and sand	6	237
	Variegated clay	6	243
	London [? bluish-grey] clay ...	14	257
	Green sand	8	265
	Brown mottled clay	11¾	276¾
	Sand and clay	2¾	279
	Clayey green sand	6	285
[Thanet Sand, 16¼ feet.]	Green sand and pebbles	6¼	291¼
	Grey sand	1¾	293
	Green sand	14	307
[Upper] Chalk	Flint	1	308
	and flints	142	450

An account of another well or boring here, made and communicated by Messrs. Baker, is as follows.

		Thickness. Feet.	Depth. Feet.
	Mould	1	1
[London Clay.]	Brickearth	19	20
	Clay, a foot and then claystone, a foot	2	22
	Blue clay, with claystone at 53-53½, 71-72, 77-77½, 91-91½, 127½-128, 136-136½, 158½-160. At base 3 inches of claystone (with water), petrified wood and then 3 inches of pyrites	151	173
	Sandy clay	25	198
	Brown sand [? Basement-bed] ...	7	205
[Reading Beds and Thanet Sand, 103 feet.]	Coloured [mottled] clay	10	215
	Green clay	12	227
	Grey sand with 2 inches of pebbles at top, and 4 inches at base ...	17	244
	Mottled clay [? some crew] ...	62	306
	Brown sand	1	307
[Upper] Chalk	Flints	1	308
	... ...	194	502

Mr. W. C. C. Smith, the Asylums' Engineer of the L.C.C., tells us that the well here is 198½ feet deep (shaft and cylinders) with a boring to the depth of 500 feet (lined to 314), the depth to the Chalk being 309. The normal water-level is 70 feet down. His account of the trial-boring, 350 feet off, differs from both the above sections; but seems to refer to the first.

Equivalent to 270/22.8 & Water Records No. 16.

TQ16 SE/47

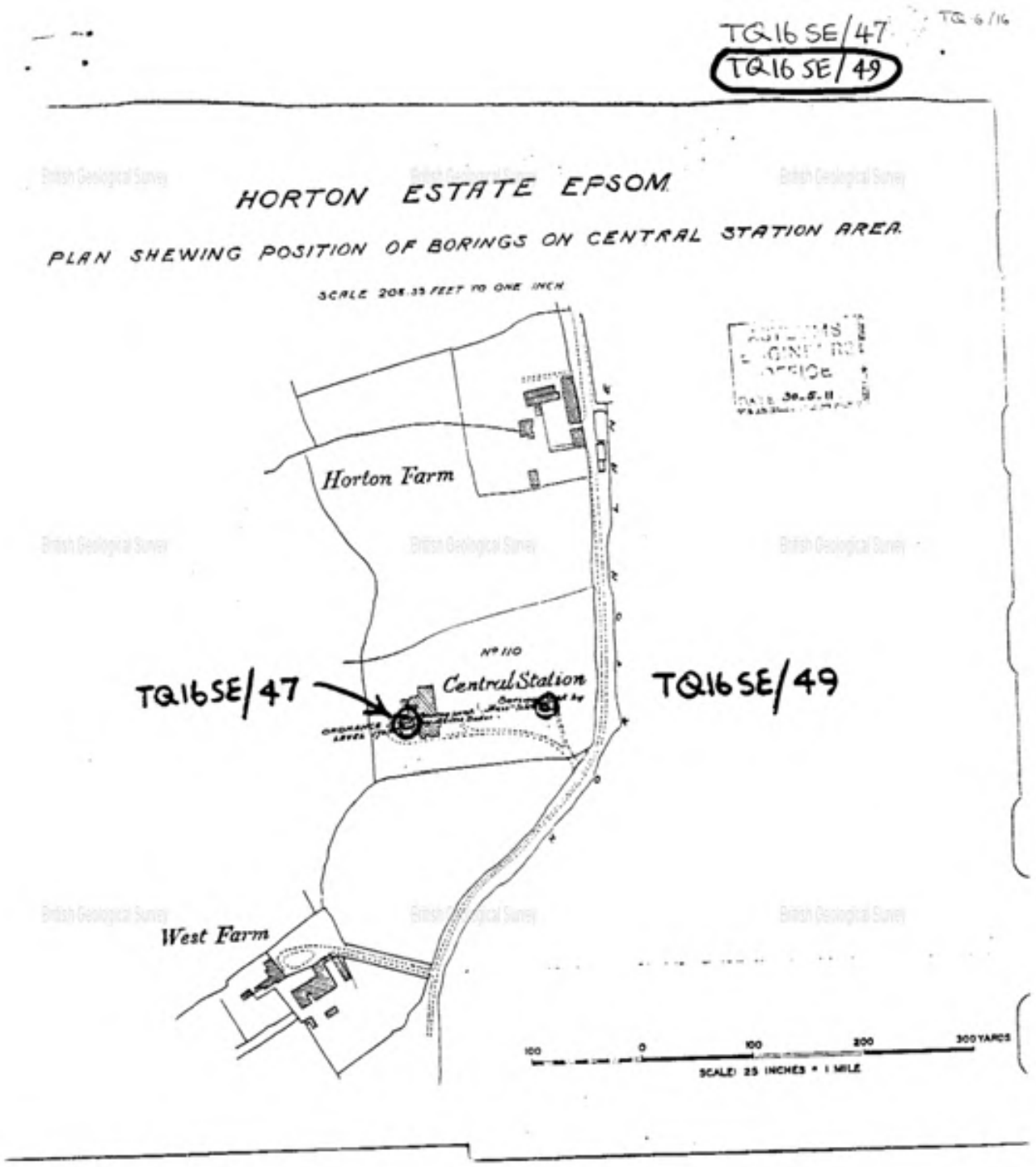
Published in 'The Water Supply of Surrey', page 157, 158

British Geological Survey

Version 2.0.6.4

BGS ID: 580269 : BGS Reference: TQ16SE49
British National Grid (27700) : 519380,162000

Report an issue with this borehole



BGS ID: 580269 : BGS Reference: TQ16SE49
British National Grid (27700) : 519380,162000

5 TQ 16/16 270 "Manor" Bore Hole.

Chart showing Soils passed through at Horton Central Station, Epsom.

212 (a)

	ft. ins.	ft. ins.
Sand and Ballast	6. 0.	6. 0.
Brown Clay	6. 0.	12. 0.
Claystone and Clay	6. 0.	18. 0.
Brown Clay	122. 0.	140. 0.
Brown Clay and Sandstone	9. 0.	149. 0.
Brown Clay	9. 0.	158. 0.
Blue Clay	10. 0.	168. 0.
Sandy Clay and Stone	10. 0.	178. 0.
Sandy Clay	5. 6.	183. 6.
Hard Sandy Clay	37. 0.	220. 6.
Variegated Clay and Sand	6. 0.	237. 0.
Variegated Clay	6. 0.	243. 0.
London Clay	14. 0.	257. 0.
Green Sand	8. 0.	265. 0.
Brown Mottled Clay	11. 6.	276. 6.
Sand and Clay	2. 6.	279. 0.
Clayey Green Sand	6. 0.	285. 0.
Green Sand and Pebbles	6. 6.	291. 6.
Grey Sand	1. 6.	293. 0.
Green Sand	14. 0.	307. 0.
Flint	1. 0.	308. 0.
Chalk and Flint	142. 0.	450. 0.

Lined with 320'0" x 7¼" tube.

Version 2.0.6.4

BGS ID: 580267 : BGS Reference: TQ16SE47
British National Grid (27700) : 519270,162060

Report an issue with this borehole

TQ16 SE/47

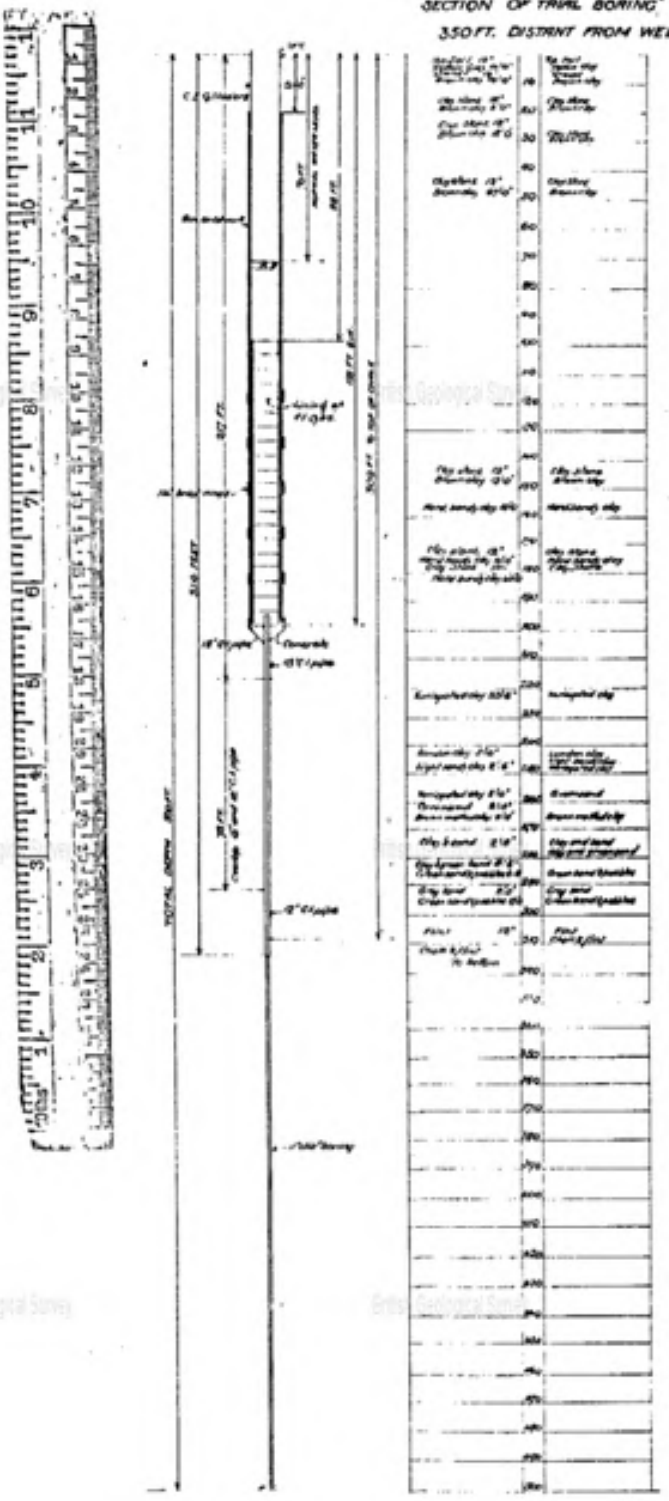
TQ 16/16

HORTON ESTATE EPSOM

WELL

ENGINEERS OFFICE
6 WATERLOO PLACE
DATE 27.1910.

SECTION OF TRIAL BORING
350 FT. DISTANT FROM WELL.



Appendix D

Zetica UXO Unexploded Bomb Risk Map

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Location: KT19 8PL,
Map Centre: 519090,161908

LEGEND

London Bomb Risk

- **miltary**
- **industry**
- **UXO find**
- **Other**
- **transport**
- **dock**
- **Luftwaffe targets**
- **utilities**
- **abandoned bombs**
- **Bombing decoy**

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

Relative UXB risk across London

The relative risk for the London area is established by plotting the recorded bombing densities.

These are represented as counts of high explosive bombs in km2 area. The areas coloured green represent a record of less than 10 bombs per km2.

Compared to other areas of the UK, this still represents a significant density. However, this is much lower than parts of Central London, where the red colouration indicates in excess of 150 bombs falling per km2, representing a very significant bombing density.

What do I do if my site is in a moderate or high density area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites with a moderate or high bombing density.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**
email: **uxo@zetica.com**
web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: **(https://zeticauxo.com/downloads-and-resources/risk-maps/)**

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

Appendix E

Risk Evaluation

Risk Evaluation

The method for risk evaluation is a qualitative method of interpreting the output from the risk estimation stage of the assessment, based on CIRIA 552[17]. It involves the classification of the:

- Magnitude of the potential consequence (severity) of the risk occurring (Table A).
- Magnitude if the probability (likelihood) of the risk occurring (Table B).

Consequence (Severity)		
Classification	**Definition**	**Example**
Severe	- Short term (acute) risk to human health likely to results in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. - Short term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. - Catastrophic damage to buildings/properties. - A short term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definition of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	- High concentrations of cyanide on the surface of an informal recreation area. - Major spillage of contaminants from site into controlled waters. - Explosion, causing building collapse (can also equate to short term human health risk if buildings are occupied).
Medium	- Chronic damage to Human Health ('significant harm' as defined in DETR, 2000). - Pollution of sensitive water resources (note Water Resources Act contains no scope for considering significance of pollution). - A significant change in a particular ecosystem, or organism forming part of such ecosystem.	- Concentrations of a contaminant from site exceed generic, or site specific assessment criteria. - Leaching of contaminants from a site to a major or minor aquifer (Principal and Secondary). - Death of a species within a designated nature reserve.
Mild	- Pollution of non-sensitive water resources. - Significant damage to crops, buildings, structures and services ('significant harm' as defined in DETR, 2000). - Damage to sensitive buildings / structures / services or the environment.	- Pollution of non-classified groundwater. - Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	- Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. - Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.). - Easily repairable damage to buildings, structures and services.	- The presence of contaminants at such concentrations that protective equipment is required during site works. - The loss of plants in a landscaping scheme. - Discoloration of concrete.

Table A: Classification of consequence.

Probability (Likelihood)	
Classification	**Definition**
High likelihood	- There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	- There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. - Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	- There is a pollutant linkage and circumstances are possible under which an event could occur. - However it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	- There is a pollutant linkage but circumstances are such that it is improbable that an event would occur in the very long term.

Table B: Classification of probability.

[17] CIRIA (2001). "Contaminated Land Risk Assessment: A Guide to Good Practice". C552.

These classifications are then compared to indicate the risk presented by each pollutant linkage (Table C). It is important that this classification is only applied where there is a possibility (which can range from high likelihood to unlikely) of a pollutant linkage existing.

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High likelihood**	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	Very Low Risk

Table C: Comparison of consequence against probability.

Once the risk has been determined the corresponding action can be assessed (Table D).

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

Table D: Description of the classification and likely action required.

Where LKC identified a low to very low risk either limited intrusive investigation work, a watching brief (during construction work) or no investigation work will be recommended. This will be dependent on the nature of the site and the proposed development.

Where the risk falls into the moderate/low risk, LKC will undertake an assessment to establish what category the pollutant linkage will fall into (i.e. moderate or low risk will be chosen).

Where LKC identifies a moderate or higher risk intrusive work or precautionary remedial measures will be recommended.

Appendix F

Planning Correspondence

MEMORANDUM

To : Virginia Johnson

From : Nicola Slade – Contaminated Land Officer

cc :

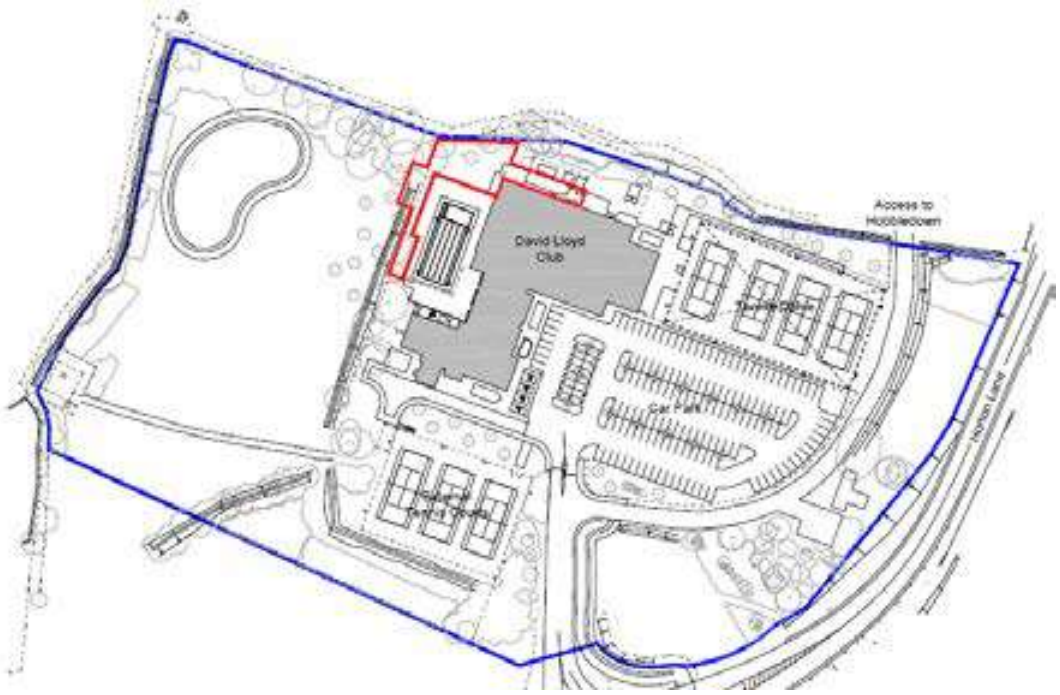
Date : 19 May 2021 **File Ref** : 03/00015/CLHIST Horton Lane Sports Centre

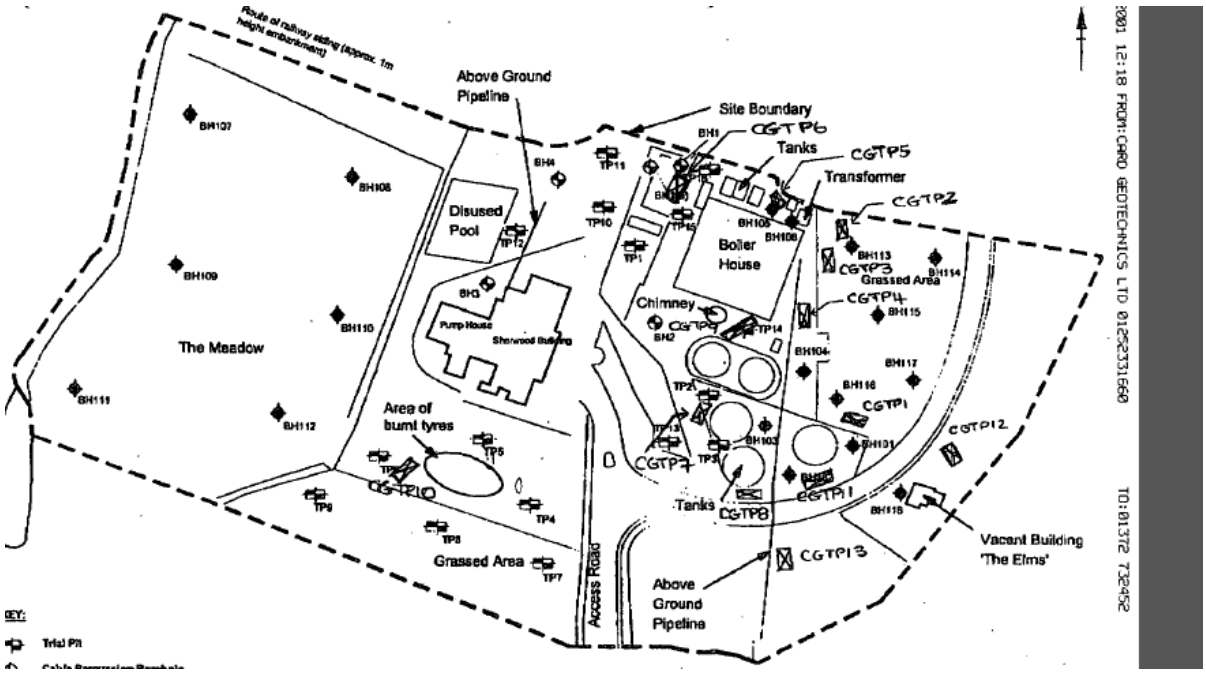
Re : **21/00772/FUL David Lloyd Health & Fitness Club, Central Boiler House, Horton Lane, Epsom, KT19 8PL**

Erection of a single storey rear extension for spa, new Spa Garden and minor extensions to existing swimming pool terrace.

Dear Ginny

Several potential sources of contamination have been identified on the site previously. I recommend the condition wording shown overpage.





Condition 1 Prior to the commencement of development approved by this planning permission (or such other date or stage in development as may be agreed in writing with the Local Planning Authority) and in accordance with current best practice guidance, the following components of a scheme to deal with any ground contamination (including asbestos) and ground gas (including volatile hydrocarbons) related risks shall each be submitted to and approved, in writing, by the local planning authority:

1) A preliminary risk assessment which has identified:

- all previous and current uses;
- potential contaminants associated with those uses;
- a conceptual model of the site indicating sources, pathways and receptors; and
- potentially unacceptable risks arising from contamination.

2) A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.

3) The results of the site investigation and detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.

4) A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action. Any changes to these components require the express consent of the local planning authority. The scheme shall be implemented as approved.

Reason
To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to
ensure that the development can be carried out safely without unacceptable risks to workers, neighbours, buildings, services and the environment in accordance with policy DC7 of the Epsom and Ewell District Wide Local Plan (May 2000).

Condition 2 If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted, and obtained written approval from the Local Planning Authority for, a remediation strategy detailing how this unsuspected contamination shall be dealt with. The remediation strategy shall be implemented as approved, verified and reported to the satisfaction of the Local Planning Authority.

Reason
There is always the potential for unexpected contamination to be identified during development groundworks and it is important that any ensuing risks to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours, buildings, services and the environment in accordance with policy DC7 of the Epsom and Ewell District Wide Local Plan (May 2000).

Condition 3 Prior to occupation of the development, a verification report demonstrating completion of the works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a "long-term monitoring and maintenance plan") for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan, if appropriate, and for the reporting of this to the local planning authority. Any long-term monitoring and maintenance plan shall be implemented as approved.

Reason
Should remediation be deemed necessary, the applicant should demonstrate that any remedial measures have been undertaken as agreed and the environmental risks have been satisfactorily managed so that the site is deemed suitable for use.

Regards

Nicola

Based across the UK with offices in Manchester, London, Liverpool and Glasgow.

Manchester (Head Office)
Unit 29,
Eton Business Park
Eton Hill Rd, Radcliffe
M26 2ZS

t: 0161 763 7200
e: info@thelkgroup.com

London
2 Falcon Gate
Welwyn Garden City
Hertfordshire
AL7 1TW

t: 01707 909059
e: info@thelkgroup.com

Glasgow
Wright Business Centre
1 Lonmay Road
Glasgow
G33 4EL

t: 0141 773 6269
e: info@thelkgroup.com

Liverpool
The Corn Exchange
Fenwick Street
Liverpool
L2 7QL

t: 0151 235 8716
e: info@thelkgroup.com

LK GROUP

- Geotechnical
- Contaminated Land
- Flood Risk and Drainage
- Asbestos
- Invasive Species
- Land Remediation
- Project Management
- Land Drilling