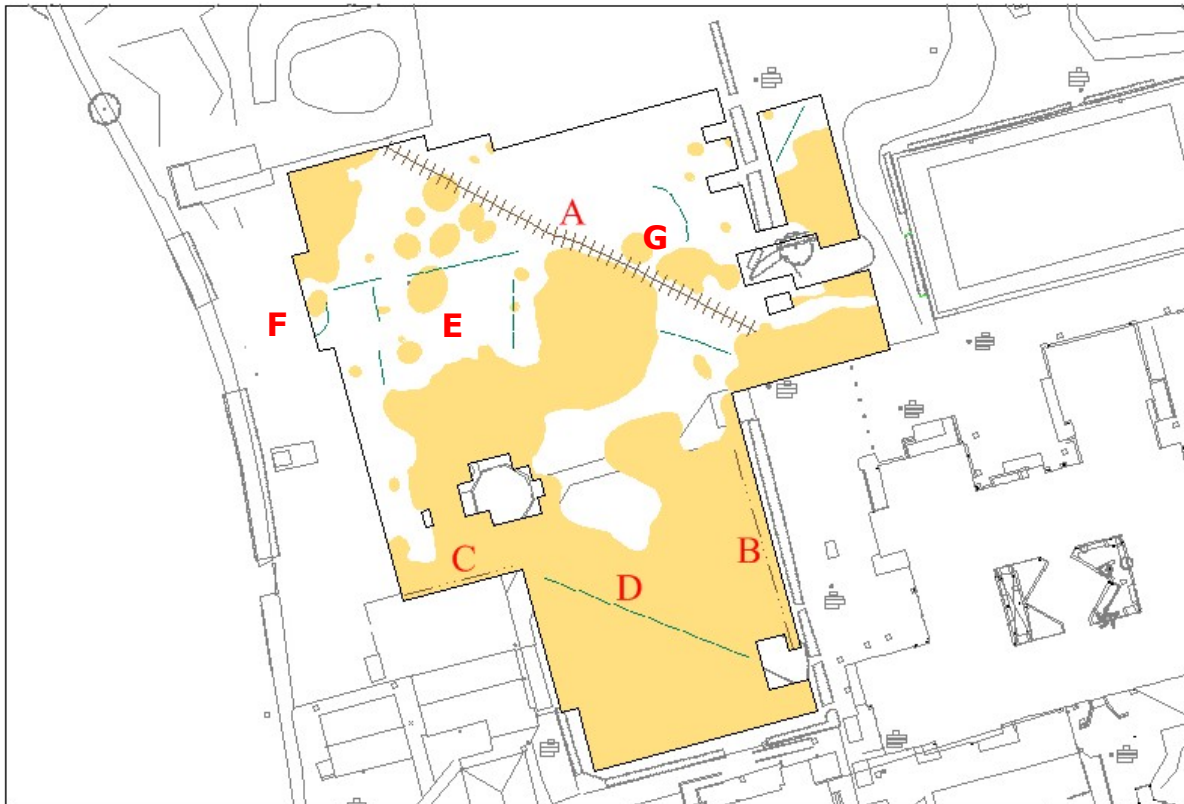




Stratton School, Cornwall

Summary of results of second stage geophysical survey



Stratton School phase 2 geophysics summary report

Report No

2011R098

Report Name

Stratton School, Cornwall: Summary of results of second stage geophysical survey

Report Author

Adam Sharpe BA MIfA

Event Type

Geophysical survey

Client Organisation

The Bailey Partnership on behalf of Cornwall Council

Client Contact

Ian Newcombe

Monuments (MonUID)

MCO21884

MCO38701

Fieldwork dates (From) (To)

6 September 2011

6 September 2011

(Created By)

Adam Sharpe
BA MIfA

(Create Date)

15 September 2011

Location (postal address; or general location and parish)

Stratton School playing field, Bude-Stratton

(Town – for urban sites)

Stratton

(Postcode)

EX23 9AP

(Easting) X co-ord

SS 22530

(Northing) Y co-ord

06616



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Abbreviations used in this report

CC Cornwall Council

Ha Hectare

HE Historic Environment, Cornwall Council

HER Cornwall and Scilly Historic Environment Record

GPS Global Positioning System

MCO Record identifier in the Cornwall and Scilly HER

Project background

On the basis of the results from an initial round of geophysical survey undertaken within the 2 Ha playing field at Stratton School, Bude-Stratton (Sharpe 2011), Phil Copleston (Historic Environment Advisor (Archaeology), Cornwall Council) requested that further geophysical survey be undertaken within the school grounds to inform whether any further stages of archaeological recording will be necessary prior to or during the development of new school buildings and facilities. The development is being overseen by Ian Newcombe of the Bailey Partnership on behalf of Cornwall Council.

The area covered by the geophysical survey covered all open areas within the school grounds, and measures approximately 0.4 Ha. This area had been the subject of a baseline appraisal by HE Projects in 2011 (Lawson-Jones 2011), which had revealed that the project area lay within the Designated Stratton Battlefield site.

HE Projects commissioned GSB Prospection of Bradford to carry out a second magnetometer survey of part of the Stratton School site and produced a report on their findings. The survey was undertaken on 6 September 2011.

Aims and objectives

The principal aim of the survey was to identify and characterise the archaeological resource and to determine whether the area proposed for development included sub-surface features of archaeological sensitivity and significance.

This process was undertaken to provide the information required in developing any proposals for further stages of archaeological evaluation and mitigation (for example, evaluation trenching, controlled topsoil stripping and excavation).

The objective was to produce a report summarising the archaeological sensitivity of the development site at Stratton School.

Working methods

Preliminary

HE Projects oversaw liaison with the geophysical survey contractor and with the client's representative. HE Projects had also provided the geophysics contractor with information relating to the site, including an extract from the *circa* 1840 Bude Tithe Map.

Geophysical survey

The geophysical survey was undertaken by GSB Prospection and took the form of a detailed magnetometer survey of open land within the school grounds to the north of the existing school buildings, covering an area of approximately 0.4 Ha. The area was under short grass at the time of survey, and was confined by buildings and some fenced off areas, though was limited by trees and bushes at its western end. Some limitations on survey were also experienced due to isolated trees, picnic tables and a concrete seating area.

A Trimble Explorer GPS was used to locate the survey tie-in data.

Technique	Traverse Separation	Reading Interval	Instrument
Magnetometer Detailed	1.0m	0.25m	Bartington Grad 601-2

Readings were stored in the memory of the instrument and subsequently downloaded to computer for processing and interpretation. *Geoplot 3* (Geoscan Research), *GPR Slice* (for GPR surveys) and in-house GSB software were used to process and present the data.

The survey methodology, report and any recommendations produced by GSB comply with guidelines outlined by *English Heritage (Geophysical Survey in Archaeological Field Evaluation, Research and Professional Services Guidelines No 1, compiled by A David, 1995)* and by the *Institute of Field Archaeologists (The use of Geophysical Techniques in Archaeological Evaluations, IFA Paper No 6, C Gaffney, J Gater and S Ovenden, 2002)*.

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GSB Prospection produced a technical summary of their results in both hard copy and on a CD Rom on completion of their fieldwork (Tanner 2011b).

Report

On completion of the fieldwork and receipt of the survey technical report, HE Projects produced a concise interpretative report on the archaeological implications of the survey (this report), which includes a summary of the results, an outline of the historical and archaeological context and recommendations for further archaeological work. Copies of this report were distributed to the Client.

The documentary archive relating to this project will, in due course, be deposited with the Cornwall Record Office. All digital records will be filed on the Cornwall Council network.

Background information

The proposed development area is situated within land that has been classified as 'Anciently Enclosed Land' (Cornwall County Council 1996). 'Anciently Enclosed Land' is land which has been settled since at least the medieval period and which often contains buried archaeological remains dating to prehistoric and medieval times.

The boundary defining the survey area to the west is shown on the 1840 Tithe Map and is likely to be medieval in origin. Other boundaries parallel to this are also shown on the Tithe Map to both its east and west, though it is clear that many of the boundaries which had formerly made up a fossilised strip field system had been ploughed out by this date.

The study area lies within the south-western part of the Stamford Hill Battlefield site. Stamford Hill was the site of a battle in 1643 during the Civil War, when the Earl of Stamford's Parliamentary force was beaten by Royalists under the command of Sir Ralph Hopton (Thomas 1993). At the time of the battle, the round (MCO8523), close to the summit of the hill was re-used as a gun battery (MCO21886) by the Parliamentarians. The road and parish boundary defining the northern edge of the site is likely to have played a key part in battle tactics, including troop movements and shelter behind boundaries from attack from upslope to the north and east.

Sites, in the vicinity, which have been identified on the Historic Buildings, Sites and Monuments Record (HBSMR), include:

- A Neolithic and/or Bronze Age arrowhead/s find spot (MCO1230) was located to the northwest of the proposed development.
- Two Iron Age or Romano-British settlement enclosures are found to the west and north of the proposed development area (MCO38698 and MCO8523/21885).
- The early medieval settlement of Stratton (MCO11320) lies to the immediate east of the project area.
- The site also lies within the area of a known medieval field system and includes extant field boundaries of likely medieval origin, which form an integral part of the Anciently Enclosed Landscape (Medieval Farmland) classification. The boundaries and the road defining much of the southern side of the site are all shown on the 1840 Tithe map and as such would be considered 'important' under criterion 5 of the 1997 Hedgerow Regulations. The northern edge of the site runs along the parish boundary separating Stratton ecclesiastical parish from Poughill and would be considered important under criterion 1. The parish boundary between Stratton and Poughill is likely to be complex and may contain evidence for re modelling over a considerable period of time.
- The medieval settlements of Broomshill (MCO10750) and Burn (MCO13643) lie to the west of the development area and associated medieval field systems – (MCO38699 and MCO38700) extend across the project area. A removed medieval field boundary (MCO38701) traverses the project area.

- Post-medieval sites, enclosure (MCO45863), pound (MCO21900), cottage hospital (MCO54354) and milestone (MCO 54191) are found in the surrounding area.
- The Stamford Hill battlefield MCO21884 (designated site BF39) covers much of the proposed development area and an associated battery lies to the north (MCO21886). The significance of the Stamford Hill battlefield site lies partly with expected below ground remains, including musket balls and other complete or broken weaponry, parts of armour, buckles and other regalia, and horse trappings including horse shoes etc.

In summary, the proposed development is situated in an area with significant archaeological potential, which contains evidence of prehistoric and medieval settlement-related activity. The nature of the sites recorded within the HBSMR suggest that there is potential for buried archaeological remains of prehistoric to medieval (and later) date to survive within the project area.

The bedrock geology within the area consists of Carboniferous sandstone of the Bude Formation, part of the Holsworthy Group, whilst the soils are recorded as the Neath type, these being well drained loams over sandstones and shales.

Results

In summary, the magnetometer survey revealed an area dominated by strong ferrous responses. Although it was considered that some contribution to these responses could be made by evidence for the Civil War Battle of Stamford Hill, it was concluded that the majority are likely to be of relatively modern origin.

A number of linear anomalies appear to correlate with mapped underground services.

In common with the survey undertaken in August on the playing field to the west, relatively weak, archaeological features within the survey area are likely to have been masked by the strong ferrous responses which were encountered.

However, as in the playing field to the west, the survey did hint at two curvilinear features: one in the north-western part of the survey area, a second in its north-east. Again, these are difficult to interpret, though have the appearance of ploughed-down round houses of prehistoric date. The relatively high level of magnetic background variation found has clearly masked detail within the survey area.

The following features are shown on Fig 3 of the GSB report (reproduced as the cover illustration of this report with HE Projects additions).

- Linear anomaly A corresponds to the route of a surface water drain shown on drawing 11-3326-001A produced by SEEKA Utility Surveys.
- Linear anomaly B appears to correlate with a foul drain shown on the same drawing.
- The form of linear anomaly C is also characteristic of a buried pipe.
- Negative anomaly D is considered likely to represent the route of a further foul drain.
- Two short north-south trending anomalies in the north-western part of the survey area (Anomalies E) run parallel to the trend of boundaries formerly defining a medieval field system formerly occupying this area of land. Many of these boundaries had been ploughed out by 1840 (Tithe Map evidence). A further probably associated anomaly runs east-west just to the north of these.
- A weak semi-circular anomaly (F) was found in the north-western corner of the survey area. This appears to be similar in form and size to the group of features found in the north-eastern part of the playing field (and marked as G on the cover illustration of the report on the initial geophysical survey). Although weak and partially masked by ferrous responses, it was considered (Sharpe 2011) that these could be interpreted as very ploughed down prehistoric round houses and potentially of regional importance. It appears from the recent survey that there is some potential for an extension of this group of features may extend into the north-western part of the school grounds.
- A further weak semi-circular anomaly (G) was found in the north-eastern part of the survey area. This is similar in size and form to feature F found in the previous

survey, and could be interpreted as partial evidence for an enclosure of prehistoric date. A weak circular anomaly immediately to its north-east shown on GSB's data plot but not on their interpreted plot may represent a further ploughed down round house.

- Strong ferrous responses, both large and small scale, were found throughout the survey area. Whilst some could represent evidence for the 1643 Battle of Stamford Hill it was considered more likely that the majority represent modern debris.

Implications

Indications of any surviving sub-surface archaeological features within the survey area is almost wholly masked by extensive ferrous anomalies which are thought likely to be largely of modern origin, though may include evidence for the Battle of Stamford Hill in the form of musket or cannon balls, buckles, fragments of armour or weaponry or horse trappings. However, as with the previous survey, two areas of the site contain faint semi-circular anomalies (F and G) and a possible further circular anomaly which may represent evidence for parts of a ploughed down prehistoric round house settlement.

Recommendations

Given the results of the geophysical survey, it is recommended that as part of the planning process a written scheme for archaeological mitigation be developed, to be approved by the relevant Planning Authority in advance of the works proceeding. The scope of the written scheme should be developed under the guidance of, or a brief set by the Cornwall County Council Historic Environment Planning Advice Officer East Cornwall (Phil Copleston). This programme of recording is likely to include:

- Archaeological evaluation trenching of sample significant anomalies (semi-circular and circular features F and G) within the north-western and north-eastern part of the survey area) should be undertaken in advance of development to assess their character and potential. The purpose of this evaluation would be to get a better idea of the survival and complexity of archaeological remains, to help to inform any requirements for full recording of this aspect of the site. Soils within fills should be sampled for subsequent analysis. In addition, sample strong ferrous responses should be evaluated by trenching under archaeological supervision to determine their nature.
- Dependant on the results of the evaluation trenching, controlled soil stripping under archaeological supervision may need to be undertaken across these parts of the proposed development area, followed by detailed excavation of any significant archaeological features uncovered.
- On the basis of the results from the evaluation trenching, an archaeological watching brief may be required during the groundworks (soil stripping) phase of the development.
- Metal detector survey and artefact recovery during the soil stripping phase should be undertaken within areas where strong ferrous responses were recorded by the geophysical survey.
- Assessment, and analysis of the materials and soil samples from the excavated sites if these prove to contain sites of regional significance.
- Publication of results from evaluation and open area excavation (if undertaken), together with analysis of soil samples and significant artefacts recovered through metal detection in an appropriate academic journal.

References

Primary sources

1st Edition Ordnance Survey 1" to a mile mapping (digital copy within the HER)

Circa 1840 Tithe Award mapping for the parish of Bude (microfiche copy within the HER)

Circa 1885 1st Edition Ordnance Survey 25" to a mile mapping (digital copy within the HER)

Circa 1908 2nd Edition Ordnance Survey 25" to a mile mapping (digital copy within the HER)

GIS layers and shapefiles within the Cornwall and Scilly HER and the Cornwall Council database

Secondary sources

Cornwall County Council, 1996. *Cornwall landscape assessment 1994*. Report prepared by CAU and Landscape Design Associates, Cornwall County Council, Truro

Lawson-Jones, A. 2011, *Stratton Primary School – historic environment appraisal and recommendations*, HE Report 2011R028 for Cornwall Council

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Websites

<http://www.battlefieldstrust.com/resource-centre/civil-war/battleview.asp?BattleFieldId=44>

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<http://www.english-heritage.org.uk/caring/listing/what-can-we-protect/battlefields-offline/battle-of-stratton>

<http://www.english-heritage.org.uk/content/imported-docs/p-t/stratton.pdf>

Project archive

The HE project number is **2011069**

The project's documentary, photographic and drawn archive is housed at the offices of Historic Environment, Cornwall Council, Kennall Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing site records and notes, project correspondence and administration.
2. English Heritage/ADS OASIS online reference: cornwall2-110052

This report text is held in digital form as: G:\Historic Environment (Documents)\HE Projects\Sites\Sites S\Stratton School geophysics 2011069\Report\Stratton School geophysics 2 summary report.doc

Stratton School phase 2 geophysics summary report

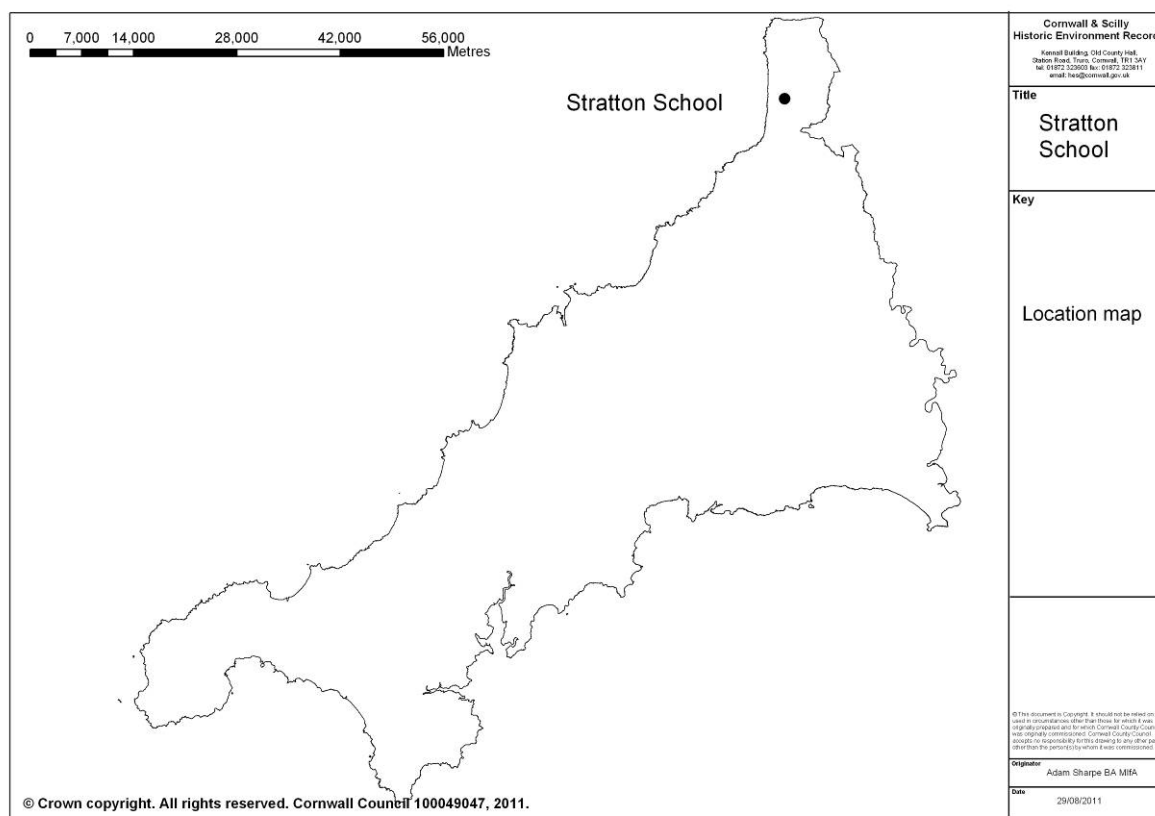


Fig 1. The location of Stratton School, Cornwall.

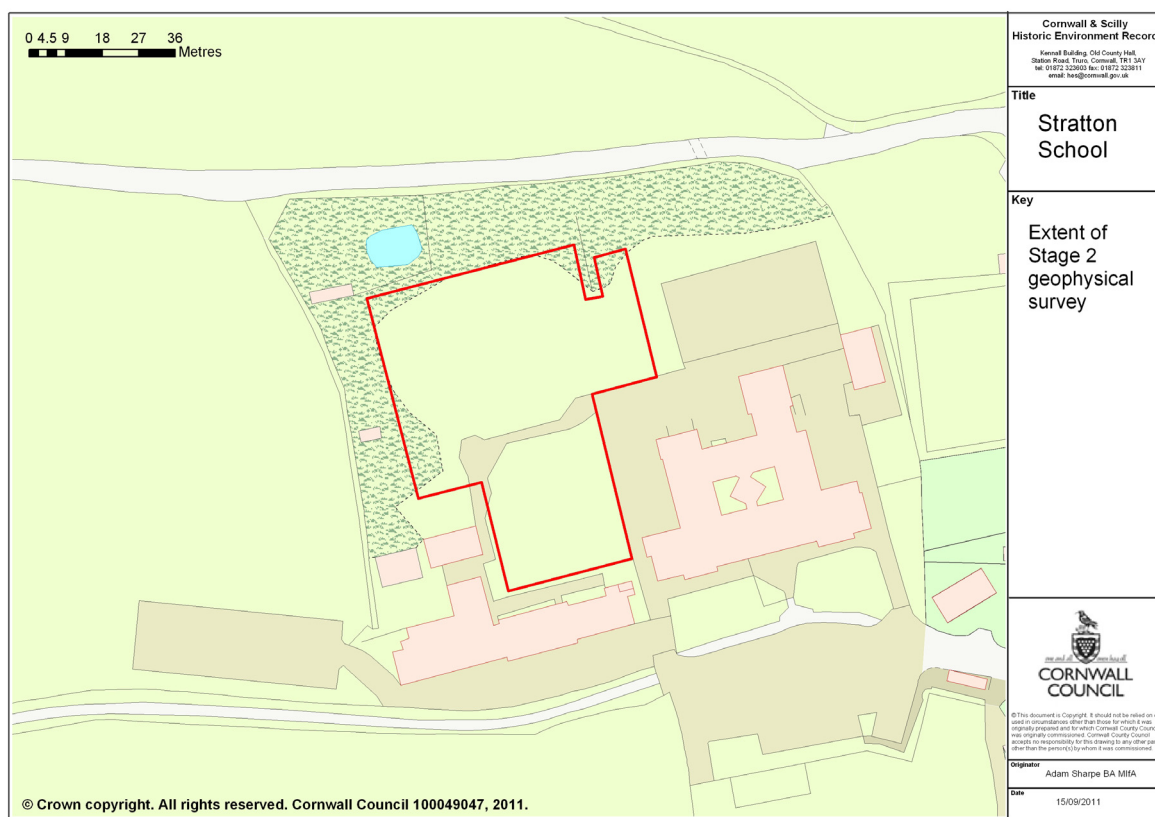


Fig 2. The extent of the survey area within the grounds of Stratton School.

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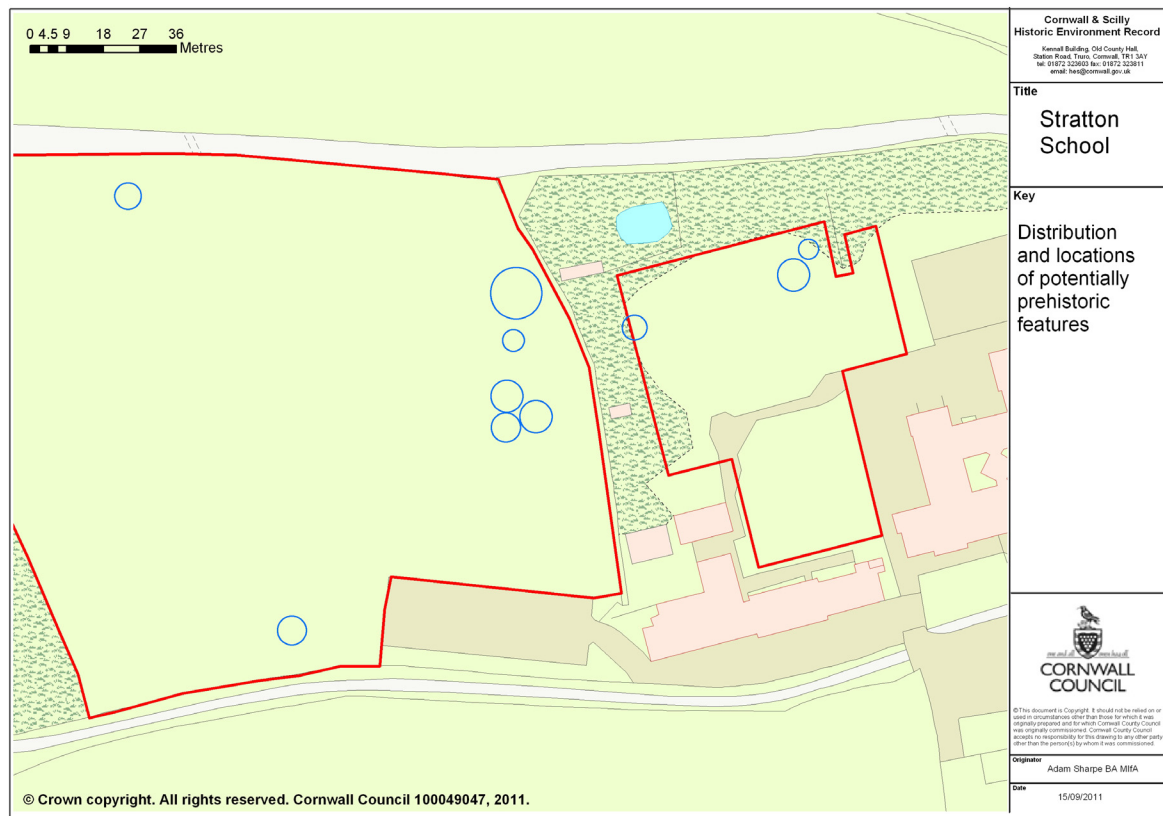


Fig 3. The distribution and locations of potentially prehistoric round houses and enclosures as interpreted from the geophysical surveys undertaken in Stratton School grounds and in its playing field.