

How to Digitise and Record

Record Form

Before you start recording features please read the [tutorials](#) as this will help you to fill out as many sections as you can below. Click on the headings to expand each section.

*Site Type

Monument Type

*Interpretation

Possible Period(s)

Map Layers Used

Other information

Field Visit Recommended?

Any other comments?

- My features
- Reviewed features
- Unreviewed features
- Scheduled Monuments
- HER Records
- EA 0.5m Local Relief Model
- EA 0.5m Surface Hillshade
- EA 0.5m Terrain Hillshade
- OS 1st Edition (1871)
- OS 2nd Edition (1899-1900)
- Surrey Tithe Maps (1838-1852)

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Surrey LiDAR Portal

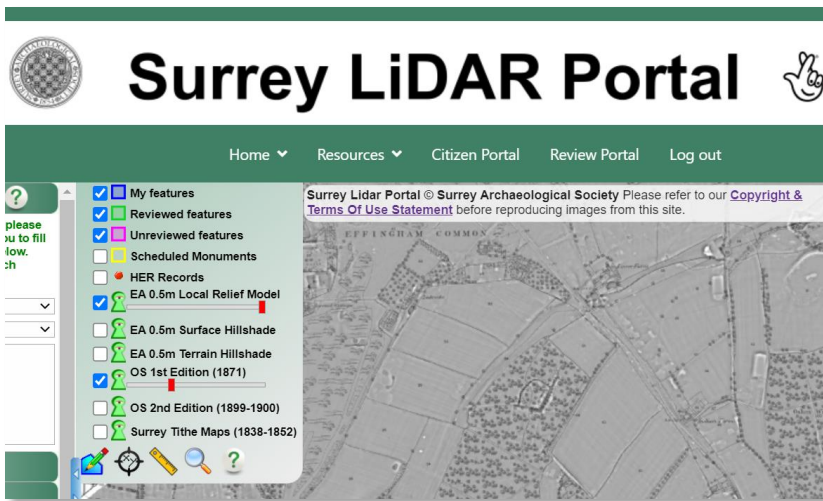




How to use this guide



The **Surrey LiDAR Portal** was set-up as a citizen science mapping project intended to enhance the county's record of known archaeological and heritage features by utilising LiDAR data. This is something which can be done by any interested volunteer, even from their own home.



LiDAR is a valuable resource, particularly for mapping subtle surface features which might otherwise be easily missed. All that is needed is a sharp pair of eyes and basic knowledge of historic monuments in order to spot and interpret potential features. The records which are then made from this data will be checked and, if valid, submitted as a permanent record to the HER (Historic Environment Record).

Additional, more detailed tutorial guides are provided which instruct on using the Portal and understanding some of the features you may find in the visualisations, including **How to Register**, **Guide for Desk-Based Study**, **How to Read LiDAR**, **Gazetteer of Monument Types** and **Guide to Groundtruthing**. We strongly recommend that you refer to them (**How to Read LiDAR** and the **Gazetteer** in particular) to make your records as informed as possible.

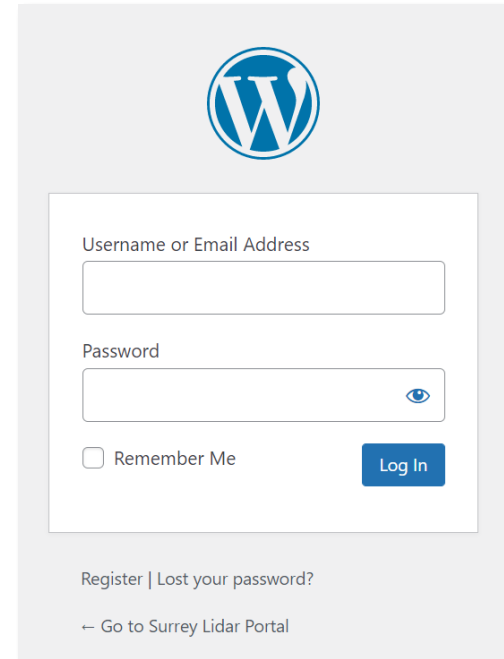
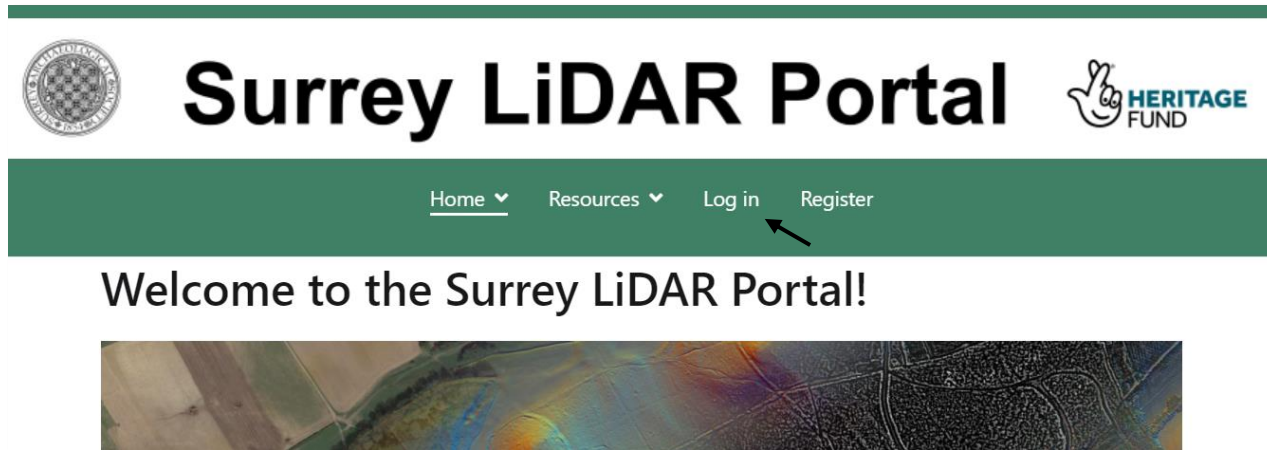
This guide provides the instructions to undertake digitisation of features. Please read these carefully and if you have any questions contact the Project Archaeologist at (outreach@surreyarchaeology.org.uk).



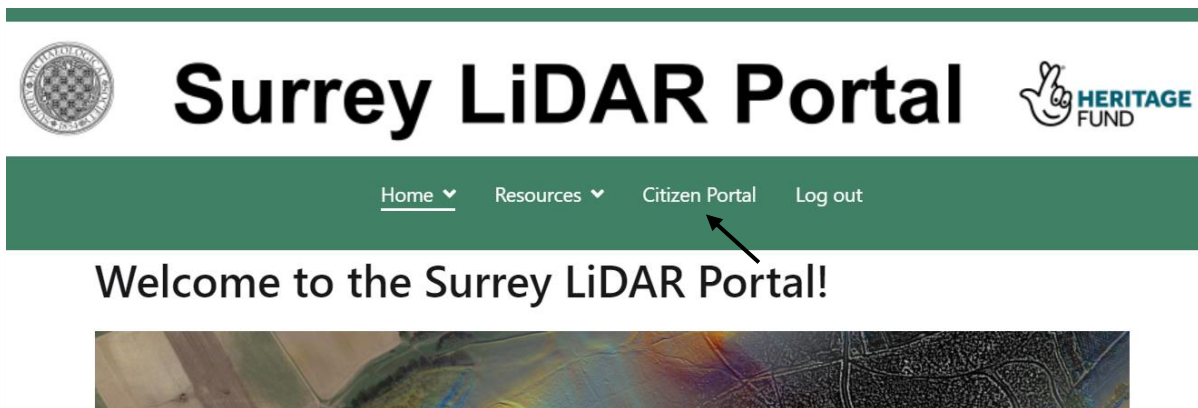
Opening the Citizen Portal



1) Go to the Kent LiDAR Portal (surreylidar.org.uk), and log in using your username and password.



2) You will see a new option in the Menu 'Citizen Portal'. Click on this link.





Opening the Citizen Portal



3) The Citizen Portal will open with the site details panel on the left. To the right is the main map which has various layers to be turned on or off (all features will be turned on when you open up the map initially, as well as the 0.5m Local Relief Model).

Surrey LiDAR Portal

Home ▾ Resources ▾ Citizen Portal Log out

Record Form ?

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*Site Type

Monument Type

*Interpretation

Possible Period(s)

Map Layers Used

Other information

Field Visit Recommended?

- My features
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- EA 0.5m Terrain Hillshade
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- Darent Valley 0.25m Surface Hillshade
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- OS 1st Edition (1871)
- OS 2nd Edition (1899-1900)
- Surrey Tithe Maps (1838-1852)

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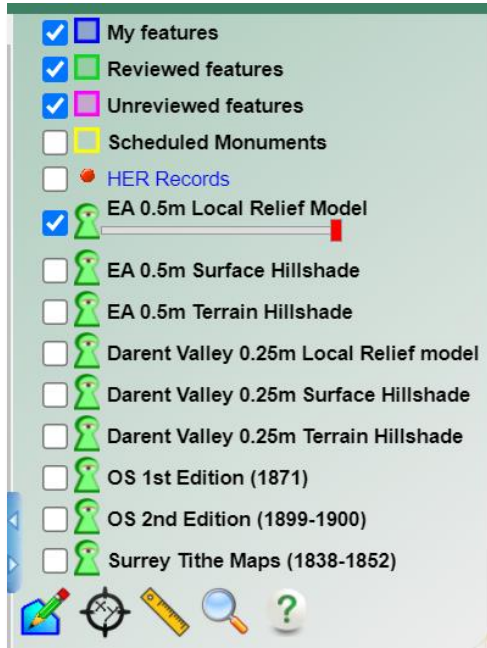
Map showing locations: Windsor, Isleworth, Staines-upon-Thames, Egham, Walton-on-Thames, Esher, Woking, Guildford, Leatherhead, Epsom, Banstead, Reigate, Tonbridge, Dartford, Northfleet, Grays.



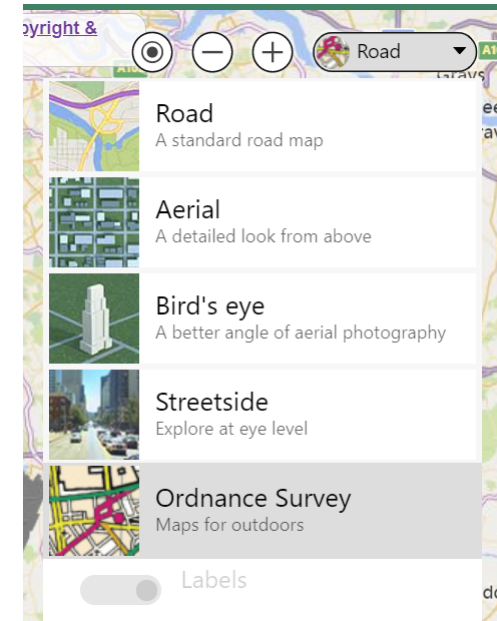
Setting up your map layers



1) In the top right corner you can select your background mapping from the Bing layers. There are also zoom in and out buttons.



2) The LiDAR data and historic maps have been processed to overlay the Bing background maps. You can see the maps available in the layers menu.



If you are working on a small screen the layers menu will present as a 'hamburger' icon. Click on the icon to open the full menu.

3) You can check the white box to add any layer to the map.

It's best to zoom into your area of interest first, and then switch the layers on, as the map will work more quickly.

You can zoom using the buttons in the top right or by scrolling the roller-ball between the keys of your mouse.

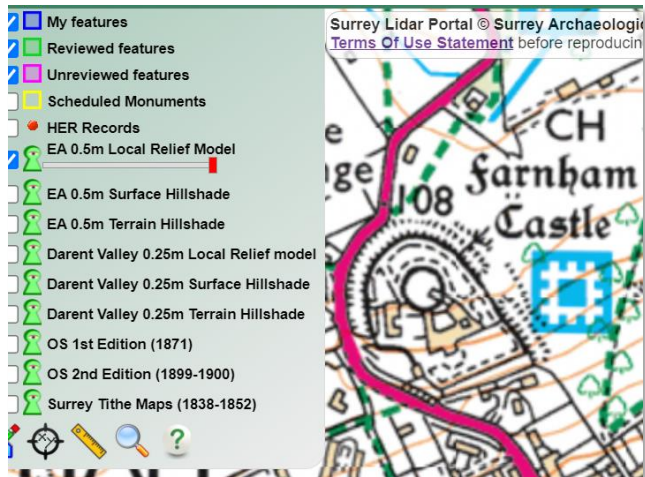




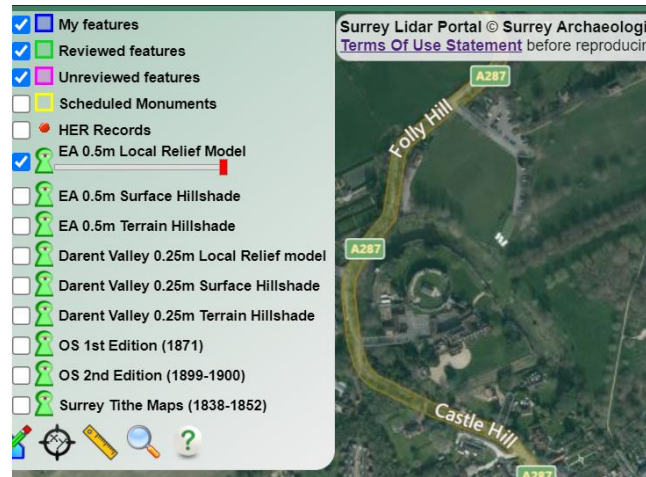
Setting up your map layers



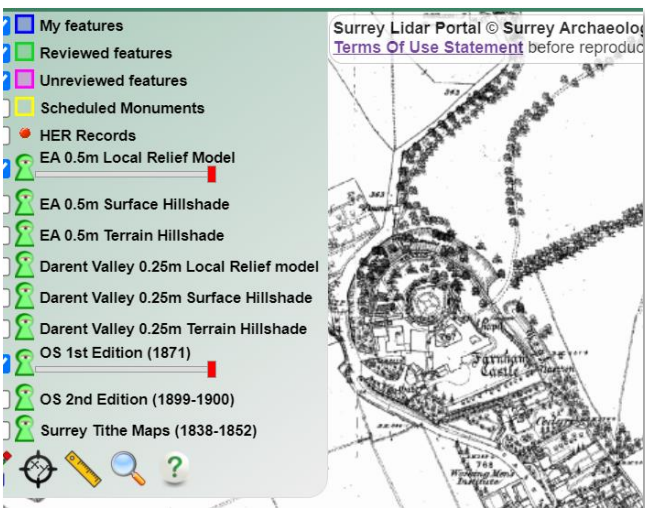
4) When you have found your place of interest, start exploring the various layers. Use the whole range of LiDAR visualisations, historic maps, aerial photos and modern OS (via Bing) to get an appreciation of the landscape and what each of the features you are seeing might be.



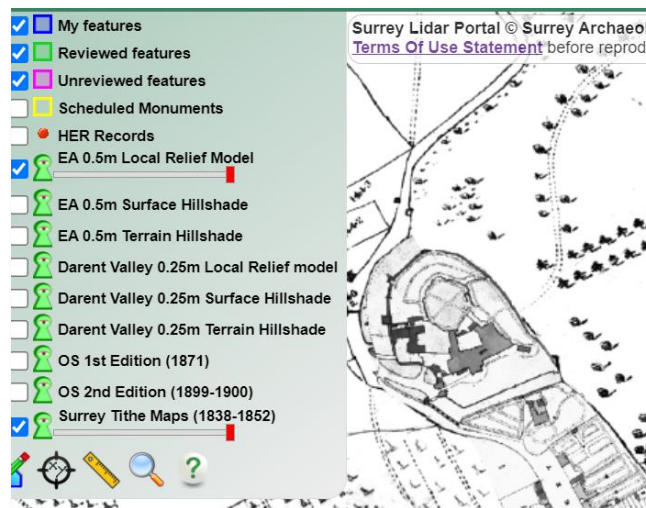
*Modern OS
(via Bing)*



*Aerial image
(via Bing)*



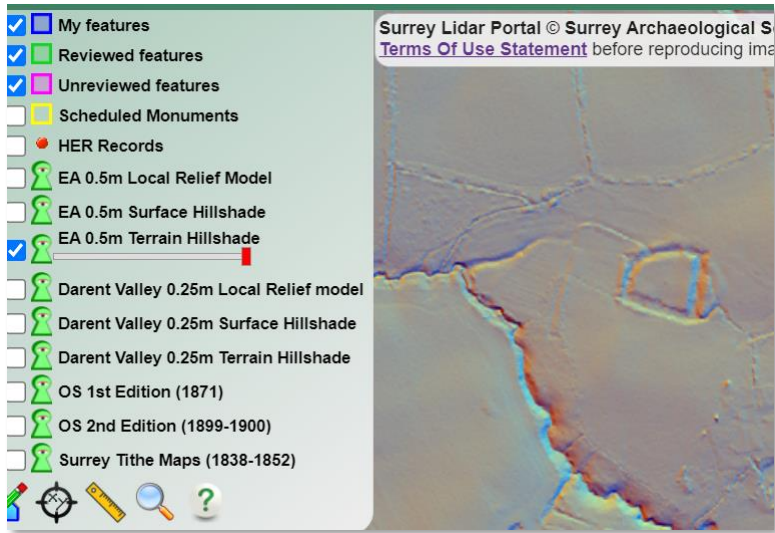
*OS 1st edition
c. 1871
(Surrey
History
Centre)*



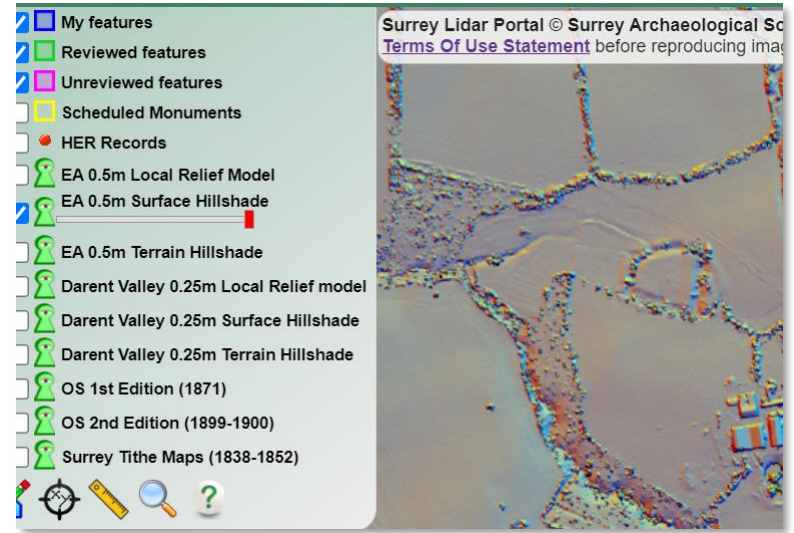
*Tithe map c.
1838-1852
(Surrey
History
Centre)*



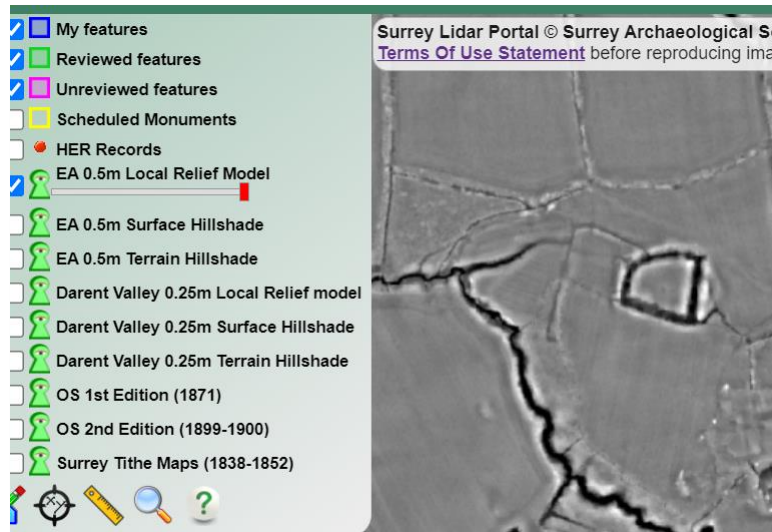
Setting up your map layers



*LiDAR Surface Hillshade (DSM)
(all buildings and vegetation included)*



*LiDAR Terrain Hillshade (DTM)
(all buildings and vegetation removed)*



*LiDAR Local Relief
(specialist terrain visualisation)*



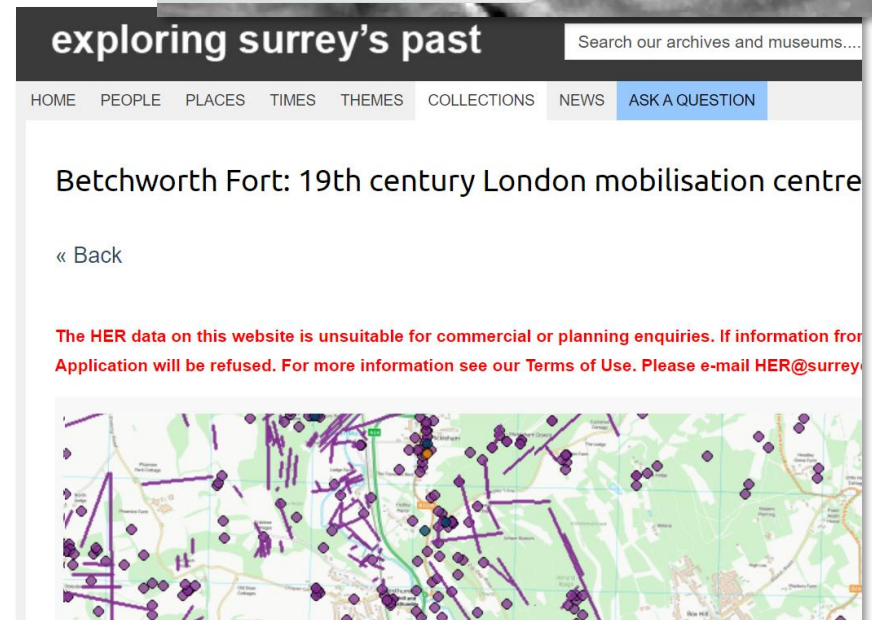
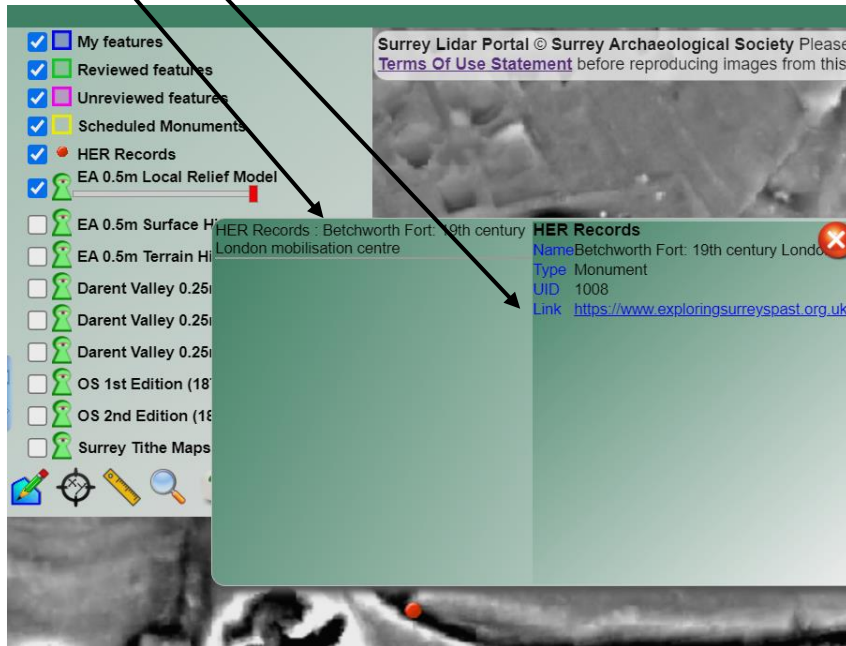
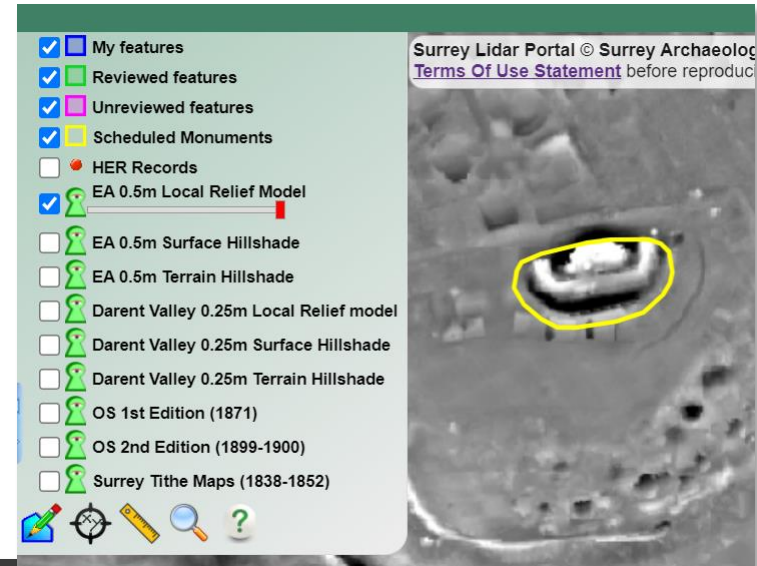
Setting up your map layers



5) Explore existing records by using the layers showing the extent of Scheduled Ancient Monuments ('Scheduled Monuments') and the 'HER Monuments' (Historic Buildings, Sites and Monuments Record data).

Click on the red dots, which will open up a text box with a brief description of the site.

Click on the url link which will then open a live link to the detailed record on **Exploring Surrey's Past**.





Setting up your map layers

6) You can view two layers at once by using the 'Keyhole Viewer'. Click on the green keyhole icon beside any layer to move it to a keyhole window. You can then re-size this window and move it around the map.

The screenshot displays the 'Surrey Lidar Portal' interface. On the left is a layer control panel with the following items:

- My features
- Reviewed features
- Unreviewed features
- Scheduled Monuments
- HER Records
- EA 0.5m Local Relief Model
- EA 0.5m Surface Hillshade
- EA 0.5m Terrain Hillshade
- Darent Valley 0.25m Local Relief model
- Darent Valley 0.25m Surface Hillshade
- Darent Valley 0.25m Terrain Hillshade
- OS 1st Edition (1871)
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- Surrey Tithe Maps (1838-1852)

At the bottom of the panel are icons for editing, navigation, measurement, zoom, and help. The main map area shows a grayscale lidar scan of a landscape with a red dot marking a feature. A 'Keyhole Viewer' window is overlaid on the map, showing a historical map fragment with a red 'X' in the top right corner. A black arrow points from the 'EA 0.5m Local Relief Model' layer in the legend to the keyhole viewer window. Another black arrow points from the bottom right corner of the keyhole viewer window to the map area.

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Setting up your map layers

7) You can also make any of the layers in the layers menu transparent using the red transparency slider below the layer name to view two layers at once.

The screenshot displays the 'Surrey Lidar Portal' interface. On the left is a layers menu with the following items:

- My features
- Reviewed features
- Unreviewed features
- Scheduled Monuments
- HER Records
- EA 0.5m Local Relief Model (with a red transparency slider)
- EA 0.5m Surface Hillshade
- EA 0.5m Terrain Hillshade
- Darent Valley 0.25m Local Relief model
- Darent Valley 0.25m Surface Hillshade
- Darent Valley 0.25m Terrain Hillshade
- OS 1st Edition (1871) (with a red transparency slider)
- OS 2nd Edition (1899-1900)
- Surrey Tithe Maps (1838-1852)

At the bottom of the menu are icons for home, north arrow, scale bar, search, and help. The main map area shows a 3D terrain view with a red dot marking a specific location. A copyright notice at the top of the map area reads: 'Surrey Lidar Portal © Surrey Archaeological Society Please refer to our [Copyright & Terms Of Use Statement](#) before reproducing images from this site.'



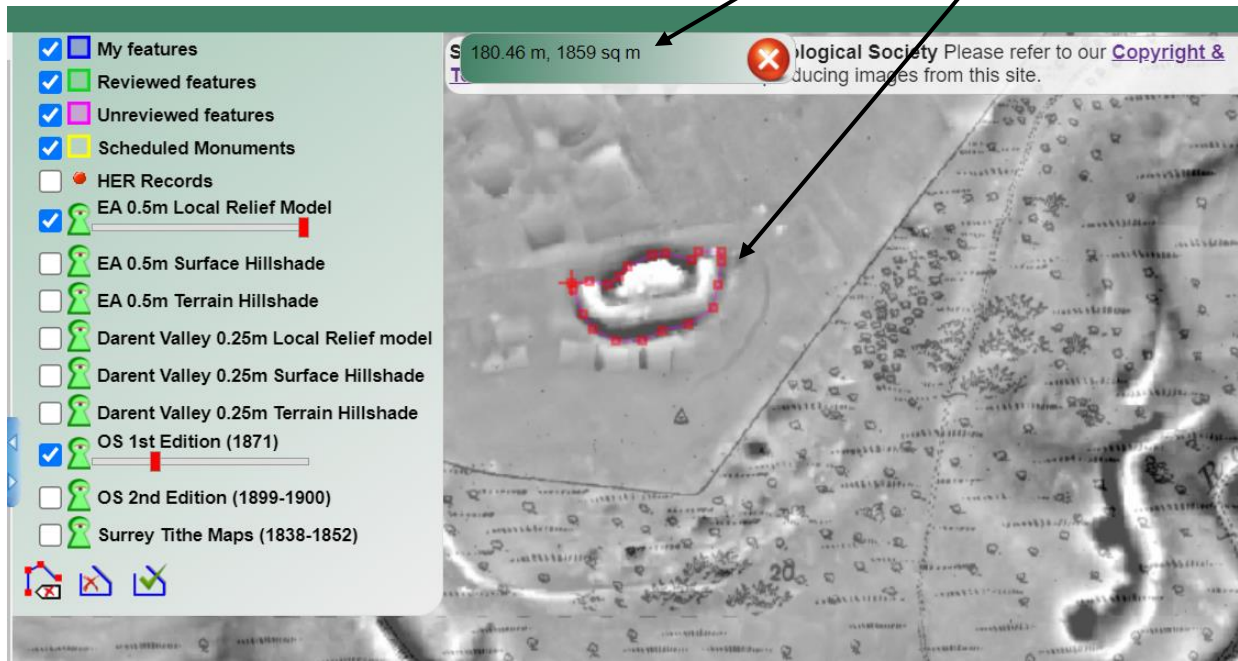
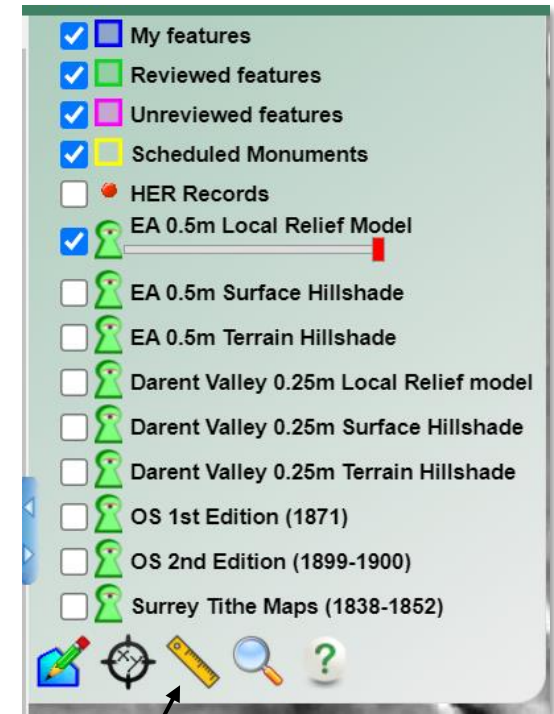
Setting up your map layers

8) Once you have identified a feature you can measure it using the measuring tool at the bottom of the layer menu.

Draw a line to measure, and then double-click to complete.

You do not need to draw a straight line but can continue around the perimeter of a feature.

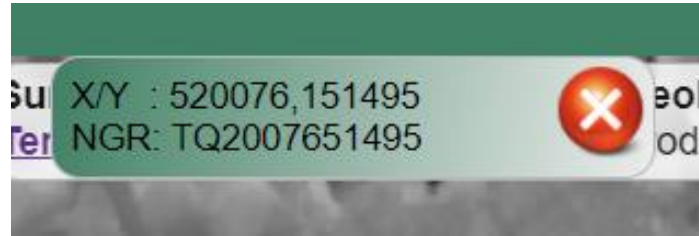
Once you have more than two points drawn, the area will automatically be calculated as well.





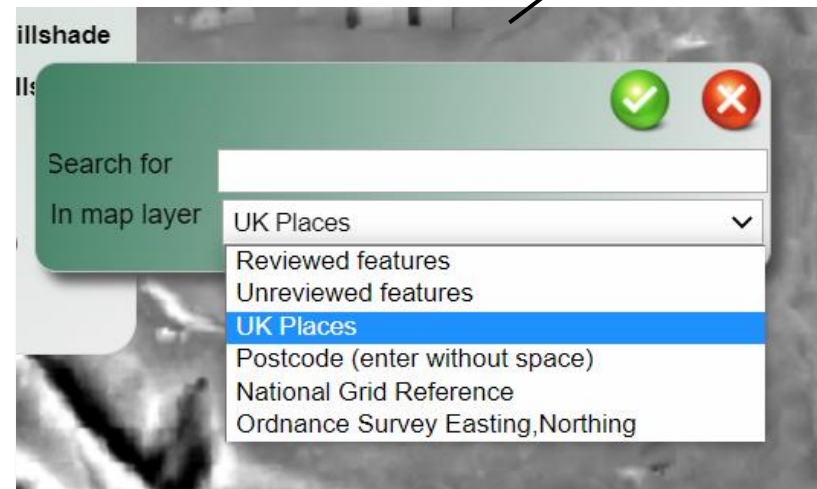
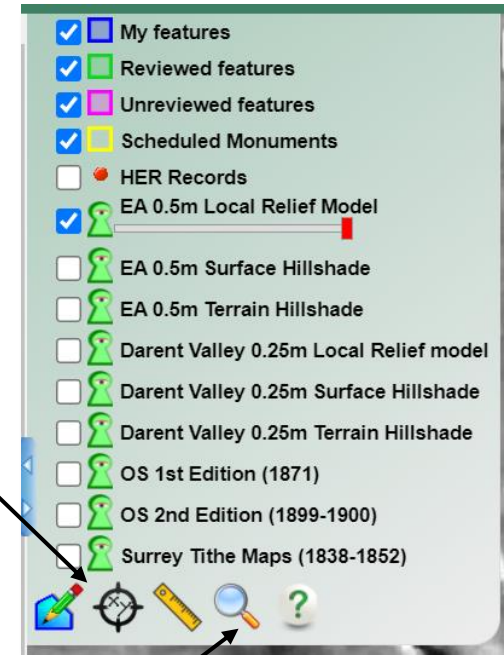
Setting up your map layers

9) You can obtain the grid reference by using the Compass tool and clicking on any point.



10) You can also search for a particular site or area by clicking on the magnifying glass (Search tool) at the bottom of the layers menu, which will then zoom to that point on the map.

This will allow you to search via several options, including by postcode, grid reference (NGR), easting and northing (X/Y) and UK Places (e.g. town or village name).





Adding a site record

1) First fill out the site details form on the left. You'll see that you have drop-down menus for the type of site and monument or feature within it.

'Site type' is a broad class, and 'Monument type' is a more specific class. So for a moated site, you would first pick 'Settlement' for site type, then 'Moated Site' for monument type.

Record Form ?

Before you start recording features please read the [tutorials](#) as this will help you to fill out as many sections as you can below. Click on the headings to expand each section.

*Site Type: Settlement

Monument Type: Mound, Bank (earthwork), Pit/Hollow, Ditch, Enclosure, Field System, **Settlement**, Routeway, Uncertain

*Interpretation

Possible Period(s)

Map Layers Used

Record Form ?

Before you start recording features please read the [tutorials](#) as this will help you to fill out as many sections as you can below. Click on the headings to expand each section.

*Site Type: Settlement

Monument Type: Moated Site

*Interpretation: Building Platform, Deserted Settlement, Garden, Industrial Site, **Moated Site**, Park, Settlement (other)

Possible Period(s)

Map Layers Used

The terms are from the national list utilised by the HER, and more detail can be found in the **Gazetteer of Monument Types**, which can be downloaded from the 'Resources' tab of the Portal.

You do not have to choose a monument sub-category, but a site type must be selected, even if 'uncertain'.




Adding a site record



2) Add a short description for the site. Please include a description of the topography, dimensions and relationship to other features.

You can also comment on the sources you have used and how the feature differs in visibility between them. This can include sources from elsewhere, such as Google Earth or other aerial maps, but make sure to include the year of the image if so.

Remember that to measure the size, use the Measure tool at the bottom of the layers menu.

Record Form 

Before you start recording features please read the [tutorials](#) as this will help you to fill out as many sections as you can below. Click on the headings to expand each section.

*Site Type

Monument Type

*Interpretation

Possible Period(s)

Map Layers Used

Other information





Adding a site record



3) You then have the option of choosing a possible chronological period for the feature.

The period does not need to be selected, and can also have more than one chosen, if there appears to be multiple phases.

Possible Period(s)

Check all periods that are related to the feature

Unknown	<input type="checkbox"/>
Prehistoric	<input type="checkbox"/>
Roman	<input type="checkbox"/>
Early Medieval	<input type="checkbox"/>
Medieval	<input checked="" type="checkbox"/>
Post-medieval	<input type="checkbox"/>
Modern	<input type="checkbox"/>

4) Next use the check boxes to note the different map layers that the feature is visible in.

Map Layers Used

Check all layers the feature is visible in.

Local Relief Model	<input checked="" type="checkbox"/>
Hillshade(terrain)	<input checked="" type="checkbox"/>
Hillshade(surface)	<input type="checkbox"/>
Historic OS Map	<input type="checkbox"/>
Aerial Photography	<input checked="" type="checkbox"/>

5) Note down if you recommend a field visit to verify a feature, or any other comments you wish to make.

Other information

Field Visit Recommended?

Any other comments?

Photographs



6) Then upload any images you may have (images may be from other maps and need not necessarily be photos).

The field visit and any site photos will likely be part of the groundtruthing process. You may decide that no groundtruthing is necessary, but if you do undertake it, you can revise your record later with an added comment based on the results.



Adding a site record



User Information ?

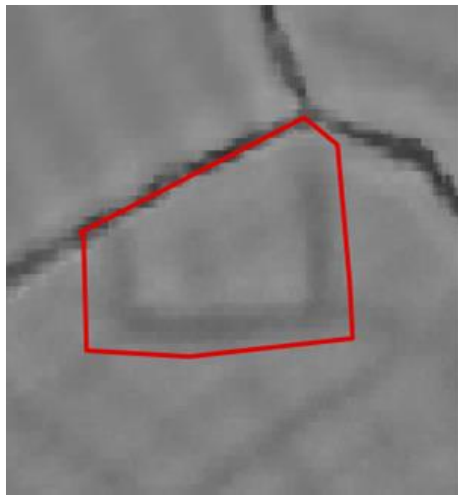
Recorder name

Recorded date

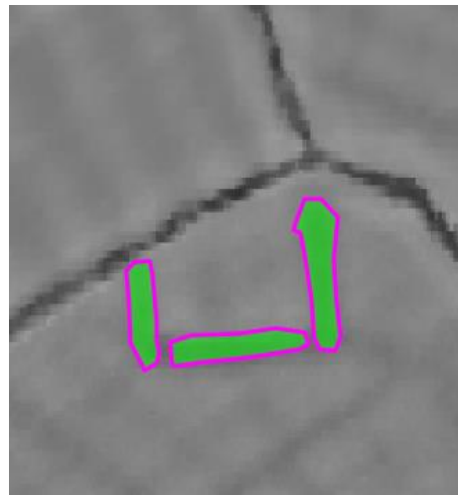
Unique ref - chi_fid

7) Your username and date will be added to the record automatically (but if for any reason they aren't, please do fill them in).

8) With the form completed you are now ready to digitise your site. However, you need to think carefully about what is the most useful way to record it, whether as one site or as features within it?



Correct digitisation



Incorrect digitisation

For some sites, such as a moated site, you would be best to digitise as boundary polygons (shapes that includes all the features relevant to a site), rather than a shape for each individual feature (in this instance, ditches).

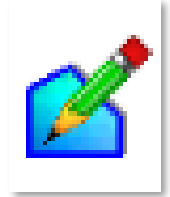
In a deer park however, individual features such as park pales, fishponds, etc would be useful to be digitised, if not already on record.



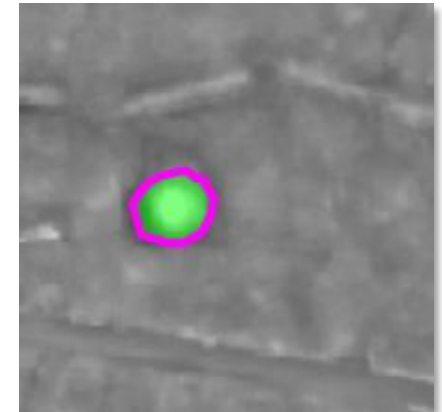
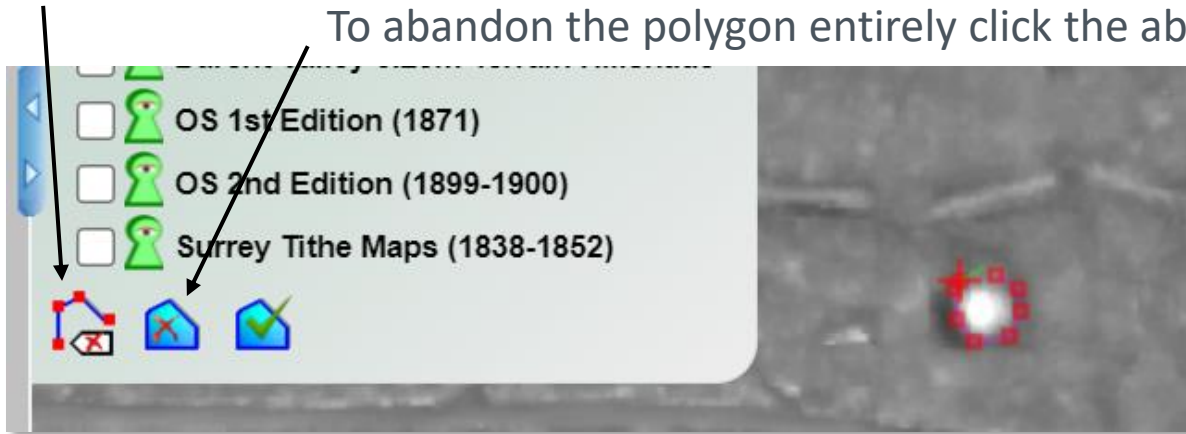
Adding a site record



9) Click on the Draw icon at the bottom left of the layer menu, and then click on the map to start drawing. Each click draws a node (corner) of your polygon. To undo the last node click the delete node icon.



To abandon the polygon entirely click the abandon icon.



Double-click to finish the polygon (or click the finish polygon icon).



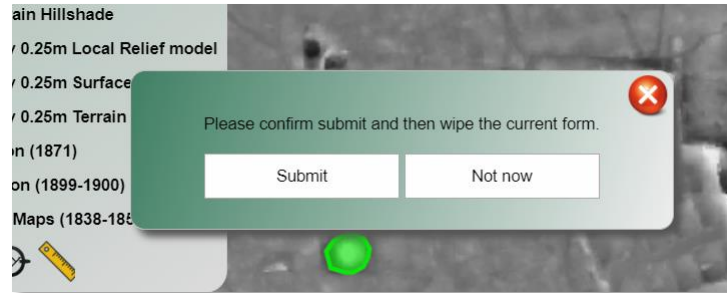
10) If you have completed a polygon but realise you have made a mistake, use the select arrow to highlight it in green and delete icon to remove it.



Adding a site record



11) With record and polygon completed, you are now ready to click 'Submit' and enter your record. The system will ask you to confirm. If you are happy, click 'Submit' again; if not, click 'Not now' to return to edit your record.



12) Don't worry if you make a mistake, but if you do, please follow the link to our online form so that one of the admin team can fix it.

Don't forget to use the Compass tool to help us locate the site!

Repeat the steps above as much as you like to keep mapping.

We recommend not making a separate record for a feature which another user has recorded, but rather commenting on it if you think an alternate interpretation is needed.

Reporting an Error - Surrey Lidar Portal

* Required

Name *

Your answer

Email *

Your answer

Please detail the error or issue, including a description of the location and a grid reference (Hint: use the grid reference finder) *



Reviewing a site record

1) Each recorded feature is also visible to other users, who are able to comment on it, if they feel a slightly altered interpretation is needed, or if additional information would be useful. Any comment you make will become part of the record for that feature.

In order to comment, click on the map polygon (magenta or green), and then click again in the 'Make a comment' box on the feature listing.

You can also attach images or other files (e.g. maps) if you think the information will be of use.

The 'comment' function was added in order to prevent multiple records being made of the same feature, and to allow other participants to enhance the interpretation.

Try to comment only if it adds to the record (e.g. just agreeing is not really worth submitting a comment).

Please ensure that you are polite and considerate in any comments which you might make!



Other information

Field Visit Recommended? : Yes
Any other comments? :
Moderator feedback :

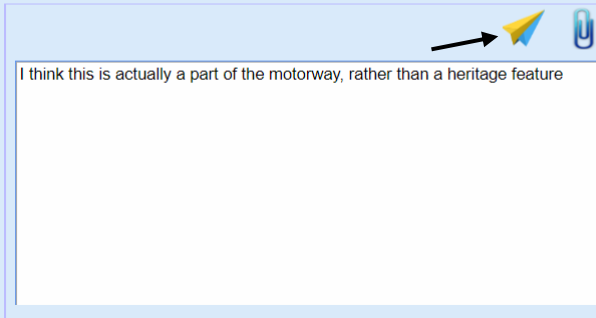
Photographs

User Information

Recorder name : TestSub
Recorded date : 2020-02-06

Make a comment ...

Use this form to enter a comment and optionally attach some images or files.



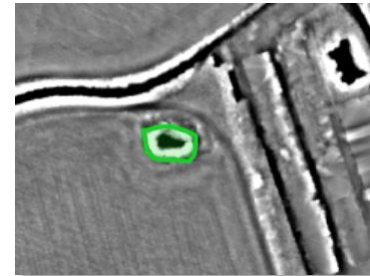
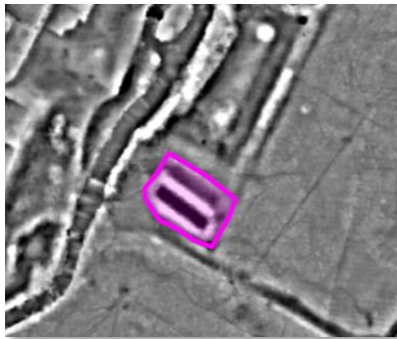
I think this is actually a part of the motorway, rather than a heritage feature



Reviewing a site record

2) Not all records which are made may be accurate in their interpretation, particularly if natural or false features and 'artefacts' from the processing of the data are interpreted as heritage features (see the **How to Read LiDAR** tutorial for more). In order to differentiate between records which are made but not confirmed and those which have been verified, a two-colour scheme will be used for the recorded monuments:

- Magenta is the colour for any initial record
- This will change to green once verified



The review process can involve a combination of desk-based assessment and groundtruthing (verification in the field), and will be undertaken by the Project Team.

Some of the review process may involve amending details of a record (e.g. adding to the periods or altering the polygon of the site), as well as its interpretation, before submission to the HER. Bear in mind, even if a site is marked as 'reviewed', further edits may still take place.

The initial record is still essential though, regardless of any amendments, so do keep recording!



This guide on **How to Digitise and Record** was produced by the Surrey Archaeological Society for interpretation of the LiDAR data on the **Surrey LiDAR Portal**

It is based on a similar guide produced by the Darent Valley Landscape Partnership Scheme for the **Kent LiDAR Portal**

Written and compiled by Dr Anne Sassin, Community Archaeologist

June 2021

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Archaeological Society

Research Centre, Hackhurst Lane,
Abinger Hammer, Surrey RH5 6SE
info@surreyarchaeology.org.uk
www.surreyarchaeology.org.uk
+44 (0)1732 280951



@surreyarch



@surreyarch