

Assessment 1: review of project success against its research design

Introduction

This essay refers to a historic building record undertaken in 2022, which saw Cornwall Archaeological Unit (hereafter CAU) undertaking a project which involved managing and commissioning a measured survey and a photogrammetric survey (Cornwall Council, 2022), as well as undertaking a historic building survey after the two other surveys had been completed.

Summary of existing knowledge, research questions and methodology

In the initial project design (Sturgess, 2022, p. 2), the existing knowledge of the site was summarised in a section entitled “project background and site history”. The majority of the existing information laid out in this section was brought from a previous assessment that had been done at the site in 2011 (Thomas). This new project had been designed because of the imminent threat of roof loss.

The project design laid out a series of objectives, set out as bullet points. This helped the reader clearly identify and understand the research aims of the project. These were:

- Produce a photogrammetry model of the existing site.
- Produce a measured building survey including plans, elevations and sections.
- Produce an accurate record of the existing complex including its fabric, features and fittings (Level 3 as defined by Historic England 2016).
- Create a phased historic development for the existing complex (Sturgess, 2022, p. 4).

The methodology was laid out in the next section under “working methods”. The methods were guided by documentation from the Chartered Institute for Archaeologists (hereafter CIfA). The work was undertaken in accordance with the CIfA updated standard and guidance for the archaeological investigation and recording of standing buildings or structures (2020a), as well as their other guidance (CIfA 2018, 2019, 2020b, 2020c, 2020d and 2020e). The guidance was fully referenced in text and in the bibliography, so that the reader could locate the references. It may, however, have been useful to include a select extract of the relevant CIfA guidance in an appendix at the end of the document to save the reader from having to search for the documents online.

The photogrammetry was undertaken by a third party (3deep Media), as CAU does not have the capability to undertake this high level of detailed 3D recording. The requirements for the photogrammetric recording were laid out in the project design, for the contractor to follow, and informing the reader what work had been commissioned. It indicated what products were required from them, these being:

- Produce a photogrammetry model of the existing site.
- Undertake drone aerial photography of the site.
- A vertical orthophoto of the site.
- Oblique images of the model.

The site survey was also undertaken by a third party, as it was considered more cost efficient for this to be done by a contractor with access to a laser scanner than for CAU to undertake it with a total station/GPS unit or hand-drawn plan. The requirements for the measured survey were laid out in the project design, for the contractor to follow, and informing the reader what work had been commissioned. It indicated what products were required from them, these being:

- Full survey to create floorplans, elevations, sections, and a roof plan.
- The survey to be tied into the National Grid.

The historic building record was undertaken by CAU. The methodology stated that the following would be created:

- Updates to the floorplans, elevations, sections, and a roof plan to include measured detail and annotations showing historic development and fabric.
- Photographs of all elevations and architectural details.
- Descriptions and annotations to the plans recording the fabric and phased development.

While these bullet point lists clearly state what work had been commissioned and was intended to be completed, it may have been useful for the general reader to have had access to a concise glossary within the document to explain a few key technical terms such as photogrammetry, orthophoto, and what exactly a phased plan is.

Implementation and management of the project

The project seems to have been managed effectively. This is evidenced by the fact that most of the outcomes stated in the project design are present in the final report, such as the phase plans (Motley and Sturgess, 2023, p. 112), the room descriptions (pp. 23-43) the site photographs (pp. 49-106), and images from the 3D model (pp. 107-111). Some elements do appear to be missing, however, such as the ADS archive and the orthophoto. This is discussed further later in this essay.

The communication within the project team was generally good, and no issues arose. The exception to this is the exclusion of the yard railings in the photogrammetry model, which caused alarm with the client due to miscommunication. This issue is further discussed on page 4.

Completeness of the report

The report is clearly presented under the following headings:

- Summary
- Introduction
- Site history
- Statement of significance
- Historic development of the building
- Building descriptions
- Recommendations
- References
- Appendixes

The report is clear however improvements could have been made. For example, all of the images relating to the text are placed at the end of the report, meaning the reader has to scroll to the bottom and then back up to the text again (or flick back and forth if a print copy were made). This issue with the report could have been resolved by having the images beside the relevant sections of text. As it stands the images at the bottom of the report do not even have a heading to define the section from the rest of the report and prevents the user from navigating the report to the relevant images section. As such the images appear to be actually included within the bibliography section of the report.

The report failed to achieve one of its aims, that being one of the aims of the photogrammetry survey, which was to produce a vertical orthophoto of the site. The report includes a vertical image of the photogrammetry model; however, it is not orthographic, and includes perspective distortion,

probably around a 30 degree field of view, which means it is not possible to measure any details off the image or use it accurately for further survey work.

Reference to research questions

The research aims from the project design are reproduced again in the report, within the introduction section (Sturgess, 2022, p. 14), however these aims are not specifically referred to again within the main report text. There is no specific explanation within the text as to how particular sections of the report achieve the aims set out in the project design. This is not necessarily needed as the sections of the report are fairly self-explanatory.

Intended vs actual report contents

The project design stated that the contents of the report would comprise; summary, project background, aims and objectives, methodology, location and setting, statement of significance, site history, phased historic development, historic building record description and results, references, project archive index, supporting illustrations, and a copy of the project design in the index. The report did in fact contain all of these elements, although not necessarily under these headings, for example the phased development is explained in a headed section (Sturgess, 2022, pp. 22-23), but the actual phase plan associated with this text is placed at the bottom of the report, with the images in apparently in the bibliography section. The plan is situated after the site photographs, which are referred to in the report text after the phase plan – so the images and plan after the report do not reflect the order in which they are referenced in-text.

Publication of results and HER record

There has, as of yet been no publication of the report or archive contents. The project design states that the project would be uploaded to the Archaeology Data Service archive, however this never appears to have taken place. The survey has been recorded in the Cornwall and Isles of Scilly Historic Environment Record (EvUID: ECO5959), however the Historic Environment Record (hereafter HER) has not made the document publicly available online (Cornwall Council, 2024). A short summary of the overall project at the site has been published on the Cornwall Council website, and while it does not give details of CAU's work, it does provide access to the 3D model produced for the project (Cornwall Council 2022).

Alternative approaches

In my view, unless the client had specifically requested that a laser scan of the site be made, it may have simplified the project to have CAU undertake the measured survey of the site, therefore reducing the number of stakeholders involved in the project. The site was reasonably simple in terms of a floor plan, and this could easily have been achieved by CAU. This would also increase CAU's time on site and therefore give further opportunity to analyse the site and potentially increase the accuracy of the results.

During the historic building recording it was discovered that there is a large and deep well shaft beneath the kennels, constructed in the manner of a mine shaft (Motley and Sturgess, 2023, p. 78). There was no inclusion of the shaft on any of the site drawings, and this is a significant oversight as it hampers the understanding of the structure for future management. The basic dimensions of the shaft to water level could easily have been measured with a digital laser measure, and the shaft added onto a section drawing of the site to show its extent. It may also have been possible for the survey or photogrammetry teams to have included the shaft in their surveys, had the shaft been known about beforehand.

Ambitions of the project design

I do not believe that the project design was over ambitious about the likely results, except in the case of the photogrammetry. For the most part the outcomes stated in the design are routine in this kind of project. The building survey that was contracted out was a routine task for the surveyor and they had no issues in creating the plans and elevations. However, the unspoken assumption that the yard railings would be included in the photogrammetric survey was overambitious. The railings are thin, narrow and complex, and this kind of geometry is very difficult to reproduce in photogrammetry due to the fact that accurate reproduction would probably require the surveyor to photograph around each individual railing bar, which would be incredibly time consuming. The omission of the railings in the model caused the client alarm, thinking that the railings had been removed from the site, and it had to be explained to them that this was not the case and that they were too complex to be included in the final model (Sturgess, 2022a).

If I had been a planning archaeologist involved, would I be happy with the outcome?

If I had been a planning archaeologist, I would have been mostly happy with the results of the survey however I would have commented on the following points:

The project design states that “photographs will include a metric scale bar, except where health and safety concerns make this impractical” (Sturgess, 2022, p. 5). However, the photograph of the historic graffiti in the kennel buildings (Motley and Sturgess, 2023, p. 64) does not include a metric scale bar. This is because the ranging rod used in most photographs cannot be affixed to the wall – which is not a health and safety concern. A small metric scale bar, such as those often used in excavations, could have been affixed beneath or beside the graffiti to give a better understanding of the image.

The comments made above about the well shaft, and how it was not properly recorded or represented in the survey images, also apply here, and as a planning archaeologist I would have been disappointed at its lack of inclusion.

I would also question why the report and images are not available on the ADS website, when the project design states the archive would be deposited with them.

I would however have been very happy with the outcome of the photography in general, which is of a high quality, is very comprehensive, and fits with the aims of the project design. I would also have been pleased with the site history (Motley and Sturgess, 2024, pp. 16-21) as this is very detailed and well researched and provides background information as well as the specific history of the site.

Bibliography

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