



Concrete Barn, Foxton: Statement of Significance

Foxton Travel Hub

May 2021

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Executive summary

This Statement of Significance has been commissioned to analyse the heritage significance of the recently designated Grade II listed Concrete Barn in Foxton, Cambridgeshire. This is in order to support detailed design development of a new travel hub, pedestrian footbridge and road alterations in the vicinity of the barn, and to inform an Options Appraisal (418368-MMD-ENV-XX-RP-EN-0008) for the future of the barn itself.

The Concrete Barn was constructed between 1859 and 1886, in agricultural fields adjacent to the Shepreth branch of the Great Eastern Railway and Foxton Station. It comprises a two-storey rectangular building, constructed in no-fines concrete using shuttered lifts. The use of concrete was unusual at this time, and more so for industrial or agricultural buildings. In particular, the use of no-fines concrete did not become widely used until following the Second World War. The means of production of the cement used to build the Concrete Barn is unclear, as the Cambridgeshire Cement Industry was barely established at this time. The first Cambridge cement plant was established in 1884, variously referred to as the Standard, Barrington and Royston works, which was possibly a source of the materials. Alternatively, advertisements for 'Foxton Stone Works' from the son of local landowner, W. Asplen in 1876 mention the sale of Portland Cement, and were possibly the source of the barn's materials, especially given that the barn was built on land likely owned by Asplen. It is unclear, however, whether Asplen was producing the cement or whether he had purchased it from elsewhere.

The barn clearly operated in association with the railway line to the north, evident in the surviving ramp on the first floor which aided the movement of goods from the building to freight trains on a siding built especially for the building. More recently, the barn has been used for agricultural storage before falling into disuse and being subjected to extensive vandalism.

The setting of the Concrete Barn is characterised by the surrounding agricultural landscape and the Cambridge Line railway. While the railway line contributes to the ability to understand the historic function and operation of the building, the agricultural setting is more closely linked with the barn's recent use as storage, which is a less significant part of the building's history.

The significance of the Concrete Barn lies primarily in its archaeological and architectural interest, as a pioneering example of a no-fines concrete building. The functional, originally symmetrical, design of the building contributes to its architectural interest, reflecting consideration for the appearance of the building as well as its use. Additionally, the surviving elements of the operational elements of the building, such as the rails for the large barn doors on the southern elevation and the ramp to the exterior on the northern elevation help to understand how the building was used to store railway freight.

1 Introduction

1.1 Background

Mott MacDonald has been commissioned by the Greater Cambridge Partnership (GCP) to undertake a Historic Environment Impact Assessment for the construction of a new travel hub, pedestrian footbridge and road alterations in Foxton, Cambridgeshire. The proposed area of the scheme encompasses land north of the A10 (Royston Road), Foxton Railway Station and adjacent land and parts of Royston Road and Station Road (Centred on NGR TL40854873); this is hereafter referred to as the 'Scheme Area'. The Concrete Barn is situated within the northern part of the Scheme Area. A map of the Scheme Area is included in Appendix B.

Following the designation of the Concrete Barn (NHLE: 1474142) as a Grade II listed building on 16 March 2021, Mott MacDonald have been commissioned to write this Statement of Significance to better understand the historic importance and value of the built heritage asset. This will inform an Options Appraisal, which Mott MacDonald are also producing. The Options Appraisal will analyse the implications, risk and opportunities associated with a number of possible options for future re-use of the building.

1.2 Overview

The Concrete Barn was purpose-built for the storage and distribution of goods in association with the adjacent Shepreth branch railway line, now known as the Cambridge Line railway. It is referred to as the 'Concrete Barn' throughout this document to mirror the name on the building's listing, which reflects its use for agricultural storage in recent years. The Concrete Barn's listing identifies the building's pioneering use of no-fines concrete in its construction, a material that did not become widely used until following the Second World War. The Historic England list description is included in Appendix A. This Statement will focus primarily on the significance of the Concrete Barn, including the contribution made by the asset's setting.

All images are courtesy of Mott MacDonald (2021) unless otherwise stated.

2 Methodology

2.1 Site Location

The Concrete Barn (National Grid Reference: TL4063648664) is situated to the north-west of Foxton village, approximately 320m north of the Foxton Conservation Area. It is located on the northern edge of an arable field to the south of the Cambridge Line railway line, with its principal elevation facing south towards the Royston Road (A10), which connects London to Cambridge.

2.2 Survey

A site walkover was undertaken by a member of the Mott MacDonald Heritage Team on 30th April 2021. This walkover included an external inspection of the barn with some internal observation, as well as an inspection of the asset's setting.

2.3 Consultation

An online meeting was held with the Cambridge Historic Environment Team (CHET) on 5th May 2021 to discuss the significance of the Concrete Barn and the production of this Statement. The possibilities for the future reuse and conservation of the building was also discussed, as well as the production of an Options Appraisal for the building by Mott MacDonald. Further consultation had been undertaken previously with CHET in relation to the travel hub wider scheme, which is outlined in Chapter 8 of the Foxton Travel Hub Environment Report: Historic Environment Impact Assessment.

2.4 Resources

The following resources were reviewed for the production of this Statement of Significance. The full references for these resources are included in Section 7.

- Relevant local, regional and national planning legislation, policy and guidance;
- Available online historic maps;
- The online National Heritage List for England maintained by Historic England;
- The Cambridgeshire Historic Environment Record (CHER);
- Historic Sources, including plans, reports, directories, newspaper articles and books;
- Available relevant online historical resources.

2.5 Assumptions and Limitations

The significance of this heritage asset is relatively newly appreciated, and therefore there is limited information relating to the history of the building. Additionally, due to its use as a warehouse or other storage facility, there are limited records relating to it throughout its life so far. No original plans or historic plans of the building were found for the production of this statement, meaning the historical background is limited in some places. A visit to the archives was not undertaken, as following study of the archive catalogue, no records were considered potentially useful, likely a result of the building only recently being recognised for its heritage significance. A digital copy of the Enclosure map of 1830 was acquired for the production of the Historic Environment Impact Assessment for the travel hub scheme, and was utilised for the production of this Statement.

Due to the location of the asset, full external inspection of the northern elevation was not possible, as it directly abuts the railway line. Additionally, due to the safety concerns, a full survey of the interior was not undertaken, and therefore the first floor was only visually assessed through a window.

3 Legislation and Planning Policy

3.1 Legislation

3.1.1 Planning (Listed Building and Conservation Areas) Act (1990)

This Act sets out the protection given to buildings of special architectural or historic interest through listing. It also sets out the process for designation of conservation areas, which are recognised as areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.

3.1.2 Ancient Monuments and Archaeological Areas Act (1979)

This Act sets out the legal protection given to archaeological remains in England, Scotland, and Wales. The Act outlines the process for scheduling and the protections afforded scheduled monuments and other ancient monuments.

3.2 National Planning Policy

3.2.1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.¹ Of particular relevance to this Statement and the possible reuse of the Concrete Barn are the following paragraphs:

Paragraph 189: In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 193: When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

Paragraph 194: Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

- a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional.*

Paragraph 195: Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent,

¹ Ministry of Housing, Communities & Local Government, National Planning Policy Framework (February 2019). Available via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf [Accessed May 2021]

unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- a) the nature of the heritage asset prevents all reasonable uses of the site; and*
- b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and*
- c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and*
- d) the harm or loss is outweighed by the benefit of bringing the site back into use.*

Paragraph 196: Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

Paragraph 198: Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

Paragraph 202: Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

3.3 Local Planning Policy

3.3.1 South Cambridgeshire local plan

The South Cambridgeshire local plan was adopted in September 2018. Of relevance to this Statement and the possible reuse of the Concrete Barn are the following policies:

Policy NH/14: Heritage Assets

- 1. Development proposals will be supported when:*
 - a. They sustain and enhance the special character and distinctiveness of the district's historic environment including its villages and countryside and its building traditions and details;*
 - b. They create new high quality environments with a strong sense of place by responding to local heritage character including in innovative ways.*
- 2. Development proposals will be supported when they sustain and enhance the significance of heritage assets, including their settings, as appropriate to their significance and in accordance with the National Planning Policy Framework, particularly:*
 - a. Designated heritage assets, i.e. listed buildings, conservation areas, scheduled monuments, registered parks and gardens;*
 - b. Non-designated heritage assets including those identified in conservation area appraisals, through the development process and through further supplementary planning documents;*
 - c. The wider historic landscape of South Cambridgeshire including landscape and settlement patterns;*
 - d. Designed and other landscapes including historic parks and gardens, churchyards, village greens and public parks;*
 - e. Historic places;*
 - f. Archaeological remains of all periods from the earliest human habitation to modern times.*

3.3.2 Foxton Conservation Area Appraisal and Management Plan

The Foxton Conservation Area Appraisal and Management Plan was compiled in 2018. The plan sets out key considerations relating to the conservation area and is a material consideration in the planning process. Although the Concrete Barn is not situated within the Foxton Conservation Area, the following principles as outlined in the Management Plan denote important considerations for development within the rural landscape surrounding the conservation area within which the Concrete Barn is situated in:

- *The preservation of key views from the village connecting to the surrounding rural landscape.*
- *The preservation of key historic buildings that make a positive contribution to the village character.*

3.4 Guidance and Best Practice

The following guidance was utilised in the production of this Statement of Significance:

- Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision Taking;²
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets;³
- Statements of Heritage Significance: Analysing Significance in Heritage Assets;⁴
- Standard and Guidance for Historic Environmental Desk-based Assessment;⁵ and
- Listing Selection Guide: Industrial Buildings.⁶

² Historic England, *Historic Environment good practice advice in planning: 2* (Swindon: Historic England, 2015) [online]. Available at: www.historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking [Accessed May 2021].

³ Historic England, *Historic Environment good practice advice in planning: 3* (Swindon: Historic England, 2017) [online]. Available at: www.historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets [Accessed May 2021].

⁴ Historic England, 'Statements of Heritage Significance: Analysing Significance in Heritage Assets' *Historic England Advice Note 12* (Swindon: Historic England, 2019) [online] <https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/heaq279-statements-heritage-significance/> [Accessed May 2021].


⁵ Chartered Institute for Archaeologists (CIfA), *Standard and Guidance for Historic Environmental Desk-based Assessment* (CIfA: 2014, updated 2020) [online]. Available at: www.archaeologists.net/sites/default/files/CIfAS&GDBA_2.pdf [Accessed May 2021].

⁶ Historic England, *Industrial Buildings Listing Selection Guide* (Swindon: Historic England, 2017) [online]. Available at: <https://historicengland.org.uk/images-books/publications/dlsq-industrial/heaq134-industrial-buildings-lsq/> [Accessed May 2021].

4 Baseline

4.1 Map Regression

Study of historic mapping focused on the north-west of Foxton illustrates little change in the area, with the exception of the construction of the railway during the mid-nineteenth century. The below map regression has been used to inform understanding of the development of the area surrounding the barn. A blue rectangle illustrates the approximate location of the Concrete Barn prior to its construction, in order to focus the analysis.

| Name | Dates | Image | Comments |
|--|--------------------------|---|---|
| 'Cambridge 23' Ordnance Survey by William Hyett | Depicted date 1808 |  | This map depicts Foxton village and the surrounding area prior to the construction of the railway line and the Concrete Barn. The map shows the surrounding countryside as unenclosed and features a number of paths connecting Foxton to the surrounding area. The Royston Road which runs north-east to south-west is depicted as a main road. Foxton village is shown as clustered on the high street with some properties having substantial gardens. |
| Map of the Parish of Foxton in the County of Cambridge | Publication date 1808 | | Not reproduced for copyright reasons |

51. Cambridge.
Creator
Great Britain. Board
of Ordnance
Publisher: Thomas
Colby (1784-1852)

Depicted date
1859
Publication date
1870



bisected by the railway. The field is shown as freehold belonging to William Hurrell Esq.

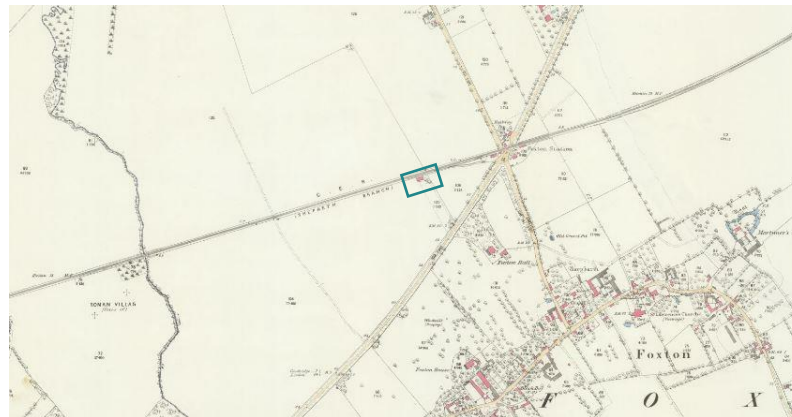
The map shows some development to the west of Foxton village and the construction of the railway line, then known as the Eastern Counties Railway, Hitchin and Cambridge Branch. A number of station buildings are evident around the level crossing.

Foxton village appears to be a similar size to as depicted in the 1830 map.

A small unshaded building that is not extant today is depicted to the south of the Concrete Barn.

Cambridgeshire
LIII.SE
Ordnance Survey

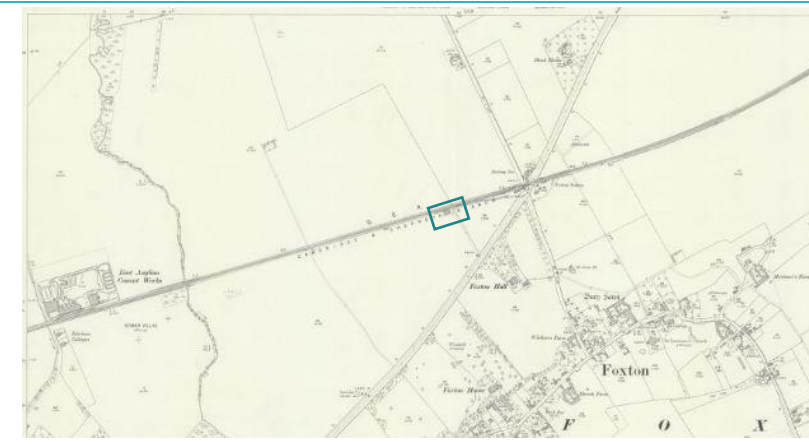

Surveyed: 1886
Published: 1886



This is the first map that depicts the Concrete Barn in situ alongside the railway line. It is shaded pink to denote that it is composed in 'brick or stone'; grey shading refers to buildings built from iron or wood. Given that there is no category for concrete in the key, and that the building on the same spot as the Concrete Barn is today, we can assume that it is the first depiction of the barn.

The map depicts two tracks running from the Concrete Barn towards the road to the south. It also shows railway sidings immediately to the north of the Concrete Barn, from which it is clear that the building was used in association with the railway line.

The small unshaded building to the south of the Barn depicted in the above map is shaded pink in this map. It is unclear if it functioned in association with the Concrete Barn, and the building is not extant today.

| | | | |
|---|--|---|--|
| <p>Cambridgeshire LIII.12 Ordnance Survey</p> | <p>Revised: 1901, Published: 1903</p> |  | <p>This map depicts the Concrete Barn with a small square outshot on its northern elevation, facing the railway. It presumably operated in connection with the barn's transportation of goods to the railway. Foxton village appears largely the same as depicted in the 1886 map, with little additional development. East Anglian Cement Works is depicted to the west of the Concrete Barn and the Ingleside Chalk Works to the south-west, reflecting the growth of industry in the surrounding area.</p> |
| <p>Sheet 148. Saffron Walden.</p> | <p>Depicted date 1946</p> |  | <p>This map shows the expansion of the cement industry in the vicinity of the Concrete Barn. An additional railway branch line has been constructed, giving access from the Barrington Cement Works directly to the mainline just to the east of the Concrete Barn. There is evidence of chalk quarrying to the south-west of the Concrete Barn, associated with the former Ingleside Chalk Works, shown on this map as connected by tramway, labelled 'Mineral Railway' to the East Anglian Cement Works. The land in the immediate vicinity of the Concrete Barn has remained in agricultural use. The small building to the south of the Barn is not shown on this map. The small outshot to the north of the Concrete Barn is not drawn, nor are the railway sidings serving the Barn, likely a simplification (see comments relating to 1980 map, below). The small unshaded building to the south of the Barn is also not present. Within Foxton village, there has been some development between the station and High Street, and in-filling of gaps between buildings in the village centre.</p> |
| <p>Ordnance Survey 1980 1:2,500</p> | <p>Published: 1980</p> | <p>Not reproduced for copyright reasons.</p> | <p>This map shows further expansion of Foxton village towards the station and surrounding the station to the north and east. It also shows the Concrete Barn with the sidings and outshot that are absent from the 1946 map, suggesting that their absence is perhaps caused by the scale of the map used, as opposed to their being</p> |

deconstructed. The small building to the south of the Barn is not present, suggesting it was demolished.

The land in the immediate vicinity of the Concrete Barn is shown as still in agricultural use.

4.2 Site History

The settlement of Foxton village predates the Domesday survey, where it is referred to as 'Foxetune', comprising 43 households.⁷ The medieval settlement of the village had a predominantly linear formation that developed along the High Street, following the line of a brook. The Royston Road (A10), to the north of the village and partially incorporated into the Scheme Area, was an established route by 1300, by which time it was known as 'the Portway'. The land around the village was mainly given to arable farming and sheep husbandry.

The Shepreth branch of the Great Eastern Railway was opened in 1850, the route of which forms the northern edge of the Scheme Area. Foxton station, immediately northeast of the Scheme Area, was opened a year later and remains operational today. The Concrete Barn was constructed immediately south of the railway line and 250m west of the station, between 1859 and 1886, according to historic mapping. It had its own railway sidings and its simple rectangular structure was constructed in-situ from no-fines mass concrete using shuttered lifts. Its principal elevation faces south and features a central door opening at ground level and two windows, with two more bricked up, all evenly spaced. At first-floor level, the southern elevation features two large door-sized openings and three windows. The northern, eastern and western elevations also feature window openings, some of which are now blocked up with bricks and others with cement. Beneath the hipped slate roof, the roof structure is composed of a pine angled queen post truss structure, which is assumed to be original.



Figure 4.1: Exterior of the Concrete Barn from the south

The latter half of the 19th century saw the development of a cement industry in the Cam Valley, where the geology was ideal for the manufacture of Portland Cement, due to the gravelly and chalky soil, and gravel and clay subsoil.⁸ Given that the development of this industry and the construction of the barn occurred contemporaneously, it seems likely that the cement used to construct the Concrete Barn came from a local source.

The first reference found relating to cement in Foxton and the surrounding area is a newspaper advertisement for Portland Cement at 'Foxton Stone Works' in the *Cambridge Independent Press* on 1 July 1876 by a W. Asplen Jnr, the son of a local landowner. It is likely that W. Asplen Snr owned the land that the Concrete Barn was built upon: in 1856, he purchased 410 acres of

⁷ Open Domesday (<https://opendomesday.org/place/TL4148/foxton>) [Accessed May 2021]

⁸ E. R. Kelly (ed). *The Post Office Directory of Cambridgeshire* (London: 1879): 72.

land in Foxton from the estate of deceased local landowner William Hurrell. On the enclosure map of 1830, Hurrell owns the land that the Concrete Barn was later built upon, a portion amounting to 119 acres. It seems likely that this area, and land to the south of Foxton, formed the 410 acres that Asplen Snr purchased. Additionally, Asplen Snr built Foxton Hall in 1877 situated approximately 180m to the south of the Concrete Barn, and its sale particulars in 1904 stated that the Hall came with land containing deposits of cement marl, bolstering the link between the Asplen family and the construction of the Barn.⁹ This is supported by Historic England's Advice Report for the listing of the Concrete Barn, which states that cement marl was extracted in the vicinity of Foxton by 'the owner of Foxton Hall' in 1877.¹⁰ This suggests that the Concrete Barn could have been constructed using materials taken from Asplen land, and that Asplen Jnr's newspaper advertisement of 1876 was publicising materials produced on his family estate. It is possible that Asplen Jnr constructed the Concrete Barn as an example of what could be produced using concrete, possibly a show building for Foxton Stone Works.

Asplen Jnr continued to advertise the Foxton Stone Works in the Cambridge Independent Press and Cambridge Chronicle and Journal until 28 October 1876. No further records of 'Foxton Stone Works' have been found, and it is not mentioned in Kelly's Directory of Cambridgeshire (1883), which only records one cement company in the area, Rugby Portland Cement Company.¹¹ The directory lists Asplen Jnr as a corn and flour merchant in Haslingfield, suggesting that his time in the cement industry was short-lived, though.¹² It is possible that Asplen used the barn to store corn and flour as part of his second business given that Foxton is Haslingfield's closest station, but there is no evidence to support this theory,

It is also possible that the Concrete Barn was constructed using concrete from a neighbouring cement plant. The first Cambridgeshire cement plant, variously known as the Standard, Barrington and Royston works, was established in 1884 on the outskirts of Barrington, 2km north-west of the Concrete Barn. Its establishment in 1884 makes it possible that the Concrete Barn was one of the first buildings constructed with its output. The plant claimed it produced Portland cement from the outset, but it is debatable whether the materials being used produced 'real' Portland cement until later in the decade.¹³ The criticism of the quality of the cement being produced could explain why the unusual no-fines mixture was used, as opposed a more typical mix with less aggregate.

Although the origin of the cement used to construct the Concrete Barn may be unclear, the use of no-fines concrete is certainly unusual for its date in this area. No fines concrete was being used in Scotland from the 1870s, but primarily for housing, as opposed to agricultural or industrial buildings.¹⁴ In England, there are very few examples of any concrete buildings dating to the latter half of the 19th century, and even fewer agricultural or industrial ones. Asplen Jnr's advertisements note that Portland Cement can be used to produce walls at half the cost of bricks, making it a cost-effective choice of material. Further advantages of no-fines cement over a more typical mix included better insulating characteristics and reduced water absorption because of the air pockets between pieces of aggregate.¹⁵ These benefits make no-fines construction well-suited for storage purposes. The presence of gravel in the soil in the vicinity of the Concrete Barn helps to further explain the choice of no-fines cement, as the materials were readily available.

⁹ Bidwell and Sons, Cambridgeshire: sale particulars, 'Foxton Hall with gardens...' *Cambridgeshire Archives* (1904) Reference number: 515/SP336.

¹⁰ Historic England, 'Concrete barn, Foxton, Cambridgeshire' *Historic England Advice Report* 15 March (2021). Case Number: 1473994.

¹¹ E. R. Kelly (ed). *The Post Office Directory of Cambridgeshire* (London, 1879): xx.

¹² *Ibid*: 169; 72.

¹³ Cement Kilns, 'Standard' available via: https://www.cementkilns.co.uk/cement_kiln_standard.html ; accessed May 2021.

¹⁴ Historic Scotland, *Historic Concrete in Scotland Part 1: History and Development* (Edinburgh, 2013): 6-8.

¹⁵ *Ibid*: 8.

The Concrete Barn was constructed in-situ using timber shuttering, evidence of which is visible on the non-rendered walls of the building. The cement was poured in layers, with each layer requiring time to set prior to pouring the next. Each layer is discernible from the others due to this construction method, creating a striped appearance on the unrendered walls of the building. The spread of aggregate from layer to layer is particularly inconsistent, perhaps reflecting the experimental and pioneering use of this material in the area.



Figure 4.2: Western elevation depicting the uneven composition of the no-fines concrete across the different layers. The purple arrows depict the location of each of the layers.

Due to the uneven finish of no-fines concrete, caused by the shuttering process and the composition of the material, buildings constructed in this way were often covered with a cement render. The majority of the internal walls of the concrete barn, including the window reveals, are rendered, possibly to neaten the appearance of the building. Externally, only the eastern elevation of the building is rendered, though it is possible that other areas may have previously been rendered but that it has not been maintained.



Figure 4.3: Eastern elevation of the Concrete Barn

It is unclear why either only one of the elevations was rendered, or only one elevation's render has been preserved. However, the visibility of this elevation from the railway line and the render has made it a popular location for graffiti. The survival and repainting of this 'de javu' graffiti, likely by Graffiti Artists, All Type No Face, is a testament to the visibility of the spot, perhaps explaining its survival.¹⁶

The building was clearly designed to be functional, evident externally through its location adjacent to a railway line. The first map that the Concrete Barn is present on, the 25-inch 1886 Ordnance Survey, shows a single track of railway sidings serving the building, which stop just to the south of it. Private sidings such as these were relatively common in Cambridge around the turn of the twentieth century, typically utilised by merchants, suggesting that the Concrete Barn was owned and operated in connection with the storage and transportation of goods.

¹⁶ Theory posted on Flickr: <https://www.flickr.com/photos/justindperkins/16655850800>

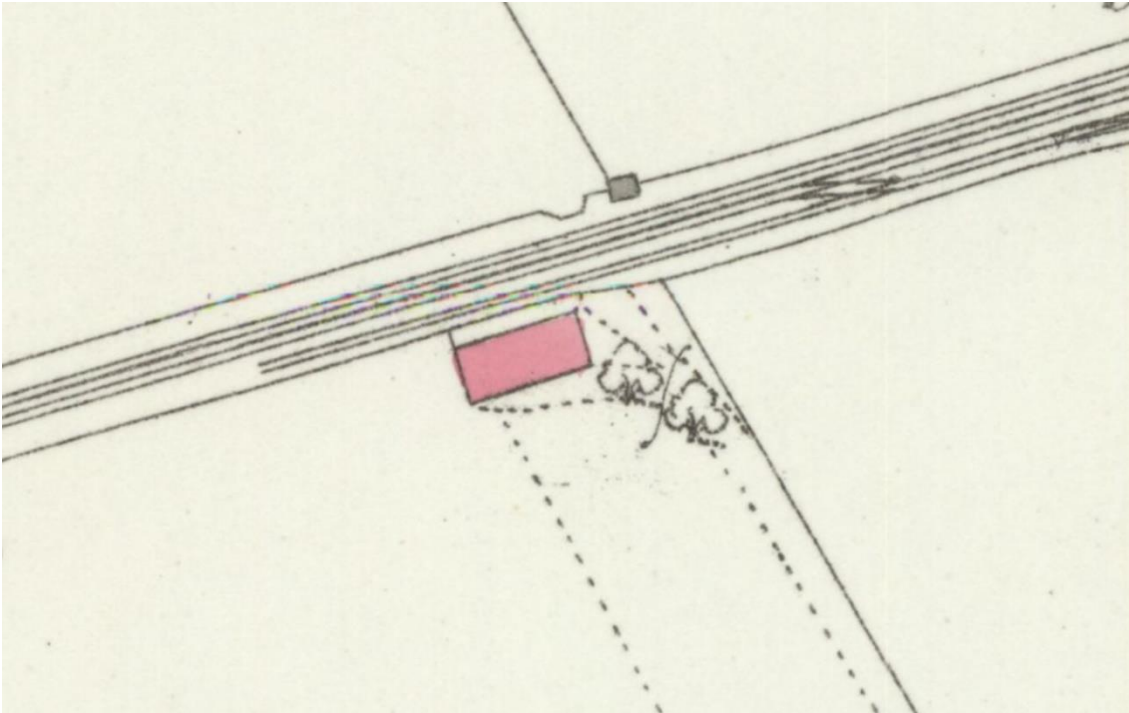


Figure 4.4: Ordnance Survey, 'Cambridgeshire LIII.12 (Foxton; Harston; Shepreth) Surveyed: 1886, Published: 1887.

Analysis of the surviving fabric of the building and its location supports this view, suggesting that it was constructed in order to facilitate the movement of goods from a cart to a train. The Concrete Barn would likely also have provided short-term storage as a transit warehouse and organised the transportation of goods from the railway to local distribution, or vice-versa.

Goods would have been delivered to the front (southern elevation) of the building, and directly deposited into the building at first floor level through one of the first floor doors. The height of these doors appears to be approximately an appropriate height for goods to be taken off the back of a cart and directly placed into the building, without having to lift them. The remains of rails for sliding barn doors are present in situ (Figure 4.5), with one of the barn door rollers and possibly some surviving timber abandoned inside (Figure 4.6). The substantial columns of the undercroft on the ground floor are suggestive of the first floor being used for storing heavy items (Figure 4.7). The first floor is a single space open to the rafters, creating a space to store a substantial amount of goods.



Figure 4.5: Southern elevation, depicting one of the large first floor openings for goods to be transported through.



Figure 4.6: Possible remains of one of the barn doors abandoned inside.



Figure 4.7: Concrete arcade supporting the first floor, facing north-east.

The northern elevation historically featured a central opening at first floor level, approximately the same size as the doors on the southern elevation facing on to the railway tracks. The opening is now infilled and rendered, with the outline evident in Figure 4.10. The material used to infill the opening is unknown, but is likely to be the cheapest available at the time of the works, possibly cement. An internal ramp that runs from the first floor downwards would have allowed for the easy movement of goods on to a train. Equally, the ramp would have facilitated the movement of goods into the Concrete Barn from the train. The ramp is composed of two long timbers that are fitted into two of the concrete arches for stability (Figure 4.8;

Figure 4.9). It is unknown whether the ramp would originally have been boarded on top, as close inspection was not possible at the time of the site visit. On the first floor, the ramp is flanked by an H-frame timber structure that relieves the weight of the Concrete Barn's tie beam; this spreads the weight to either side of the ramp, as opposed to resting on the lintel of the loading bay. Though the lintel is no longer present, its original location is still evident. (circled in Figure 4.10).

A small, steep stair offers internal access from the ground floor to first floor level. The location of the stair is indicated in Figure 4.8; there is no clear photograph due to access restrictions during the site visit.



Figure 4.8: Ground floor depicting the location and arrangement of the first-floor ramp. The blue arrow indicates the location of the stair.



Figure 4.9: Close up of the timbers that form the ramp, between the horizontal floor joists.



Figure 4.10: View of the ramp and H-framed timber structure from the first floor. The ramp is situated in the gap in the floor, outlined in blue. The original location of the lintel ends are circled in green and the red lines depict the location of the former opening.

The site visit revealed no evidence of precisely how the ramp system operated on the exterior of the building. However, on the 1903 Ordnance Survey map, the building is depicted as having a

small outshot to the north in approximately the location of the ramp, with the sidings to the building still present. This may suggest that the ramp extended further out, or that there was a kind of platform to aid the transportation of goods from building to train (Figure 4.11). Timber or brick loading platforms situated between the siding and the building were common in small trackside goods sheds.¹⁷ This structure is absent from the 1886 map, suggesting that it was perhaps a later addition. Alternatively, its absence could be a simplification due to the scale of the map.

The design of the ramp supports the view that the building was used for the storage and transportation of goods. This is of note, given the buildings' proximity to Foxton Goods Shed, situated just to the east at the station, which traditionally operated for the same purpose. This suggests that the Concrete Barn was a private storage and transit facility for a single merchant, supported by the private railway sidings adjacent to the barn.

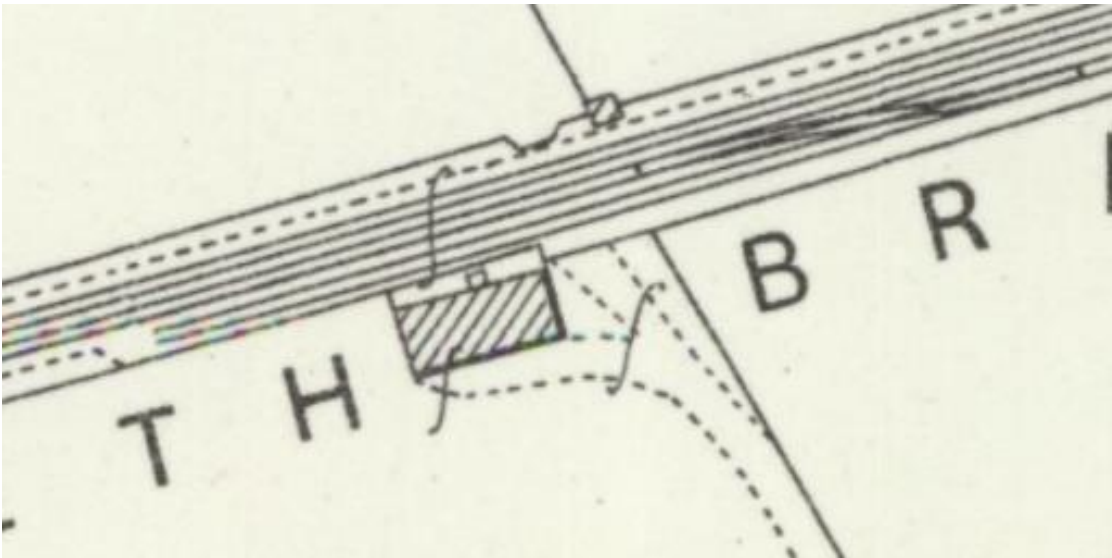


Figure 4.11: 1:2,500 1903 Ordnance Survey Map

As shown in the map regression in Section 4.1 above, the outshot structure was still present on the 1980 Ordnance Survey map, along with the sidings adjacent to the building. This suggests that they were removed relatively recently, possibly in association with the electrification of the line from 1988. No photographic evidence has been found of any structure in that location.

The original rear opening to the railway line has been infilled with a similar mix of no-fines concrete to the rest of the building and is presently unrendered. The change in material is evident in Figure 4.10 above. We can assume that this infill occurred when the building ceased to operate in association with the railway and began to be used as an agricultural store. However, whether this was in the 1980s during the electrification of the line, or in the 1950s-1960s when railway freight was in decline, is unclear.

Aside from the large door-sized openings, the Concrete Barn features a number of windows, demonstrating that ventilation and light were required for the operation of the building, the latter likely associated with the need to read consignment notes and check goods. The remains of cast iron glazing bars and timber lintels are present on some of the windows, though none of the glazing itself survives (Figure 4.12). Two windows on the ground floor have been infilled, one with brick and one with concrete (Figure 4.14). A window on the first floor has also been infilled

¹⁷ J. Minnis with S. Hickman, *The Railway Goods Shed and Warehouse in England* (Swindon, 2016): 28. [online] Available at: <https://historicengland.org.uk/images-books/publications/railway-goods-shed-and-warehouse-in-england/the-railway-goods-shed-and-warehouse/> [accessed May 2021].

with concrete, and possibly others on the southern elevation, which was not analysed due to access limitations at the time of the site visit.



Figure 4.12: The best example of the cast iron windows of the Concrete Barn, on the western elevation. There is evidence of later brick infill to the upper left of the window, outlined in blue.

The height of the windowsills on both the ground and first floors were raised following the construction of the building, evident in Figure 4.12 and Figure 4.13, where a layer of concrete is visible behind the bottom glazing bars. The higher sills were also formed from no fines concrete, suggesting that they were built up at the same time as the infilling of the rear opening to the railway line and two of the infilled windows. A further change was likely also contemporaneous with these changes: raising the height of the first floor.



Figure 4.13: Interior of the Concrete Barn depicting the later cement infills to the building, outlined in blue.

The increased height of the ground floor is evident in Figure 4.13, where cement infill is visible above the window. This change is also visible externally, where the headers of the bricks used to plug the holes previously occupied by the floor joists are evident, and where the existing floor joists sit above the first-floor door openings (Figure 4.14, **Error! Reference source not found.**).

The timber joists are also clearly of a later date than the ramp and appear far less worn, as is evident in Figure 4.9 above.

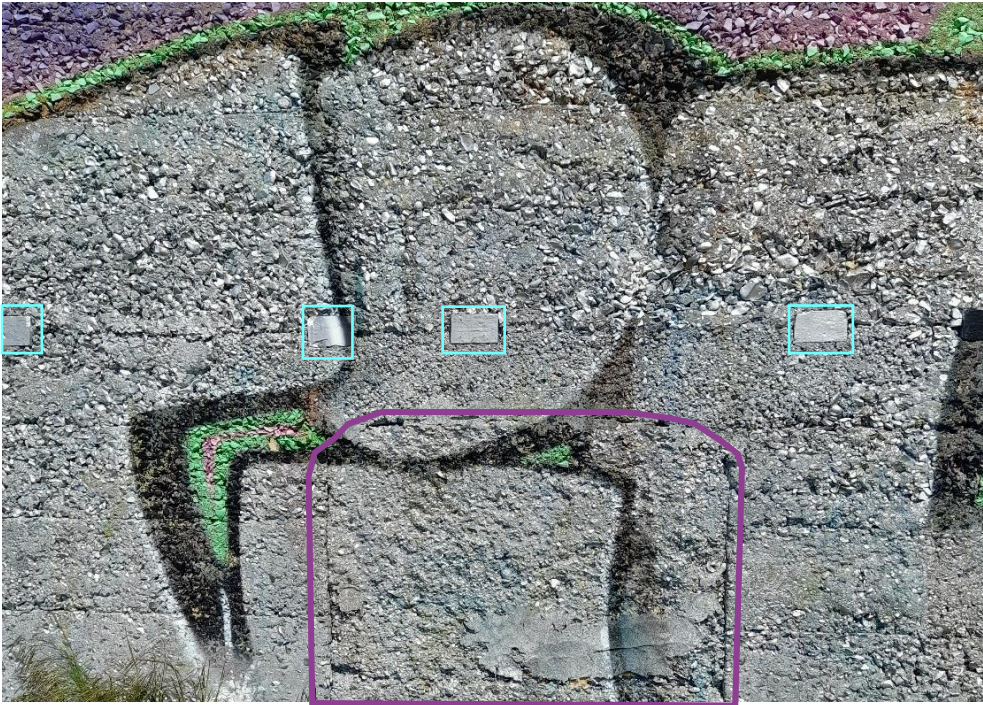


Figure 4.14: Ground floor of the southern elevation depicting the row of header bricks (outlined in blue) inserted at the former first floor level, and the outline of an infilled window beneath (outlined in purple).



Figure 4.15: First-floor door opening depicting the joists sitting above the sill of the doorway

The reason for the change in floor height was presumably to create a more useable space on the ground floor, where the ceiling was very low. The increased first floor height would have made the base of the first-floor windows quite low to the floor, perhaps deemed unsafe or inappropriate for agricultural storage, which is perhaps why the bottom row of windowpanes was blocked up. However, this does not explain the increased height of the sills on the ground floor. The extent of changes and the use of no-fines concrete to undertake them suggests they were all undertaken at a similar time, most likely associated with the change of use from a transit warehouse to agricultural store.

A further change to the interior of the building is the installation of strip lighting in the Concrete Barn, presumably during the latter half of the 20th century (Figure 4.16), suggesting the building remained in full use throughout this period. This date would tie in with the changes to the adjacent railway line and possibly a change of use for the building.



Figure 4.16: First floor of the Concrete Barn showing the timber roof trusses, holes in the roof and the strip lighting (outlined in blue).

The Concrete Barn listing notes that the existing slate roof is a 21st century replacement, though already there are areas of tiles missing; the original roof covering could have been either slate or tiles.¹⁸

¹⁸ Historic England 'Concrete Barn' (2021). [Online] available via: <https://historicengland.org.uk/listing/the-list/list-entry/1474142> [accessed May 2021].



Figure 4.17: Exterior of the Concrete Barn showing the relatively new roof tiles and area of missing tiles circled.

5 Assessment of Significance

This section assesses the heritage significance of the Concrete Barn. This assessment has been carried out in accordance with relevant Historic England guidance, which notes that the significance of a heritage asset is the sum of its archaeological, architectural, historic, and artistic interest.¹⁹

- **Archaeological interest** – *There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.*
- **Architectural and artistic interest** – *These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skills, like sculpture.*
- **Historic interest** – *An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history, but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.*

This section also assesses how the setting of the Concrete Barn contributes to this significance.

5.1 Archaeological interest

The Concrete Barn has some archaeological interest, which is primarily provided by the building itself and what it has can tell us about its construction, function and the history of the area.

Its construction in no-fines concrete provides evidence of a cement production in the South Cambridgeshire area at a time when concrete buildings were fairly uncommon. Additionally, the early date of construction demonstrates an experimentation with the material a decade prior to the development and expansion of the cement industry in South Cambridgeshire. The use of no-fines concrete, as opposed to a finer mix, is also unusual for its date, and suggests a pragmatism to build cheaply and use readily available materials, the geology of the area being very gravelly.

The construction of the barn using shuttered lifts is evident on some of the interior and exterior facades. This contributes to the Concrete Barn's archaeological interest as it is evidence of the construction methods used to build it. As an early example of a concrete building, understanding its construction process is a key element of its history.

During consultation with the Conservation Officer, it was noted that the construction material and method were key elements of the building's significance.

¹⁹ Historic England, *Statements of Heritage Significance: Analysing Significance in Heritage Assets. Historic England Advice Note 12* (Swindon, 2019): 16



Figure 5.1: Eastern corner of the southern elevation, depicting the stripes left from each pour of the concrete.

There are some surviving elements of the building that aid an understanding of how the building was used. Externally, the survival of the barn door rail on the southern elevation facilitates an understanding of the original appearance and operation of the Concrete Barn. Internally, the surviving ramp at the back of the first floor provides evidence of the building's connection to the railway, and its use in the handling of freight.

The changes that the Concrete Barn has undergone, such as the raising of the first floor, increase in height of the windowsills, infilling of some windows, installation of strip lighting and replacement of rooftiles demonstrate an intention to keep the building functional despite the changing requirements of the owner. The evidence of these changes allows for an understanding of the previous uses of the building. However, the infilling of the windows in particular has impacted negatively on the significance of the building, as it detracts from the originally symmetrical composition.

5.2 Architectural and artistic interest

The interior and exterior of the Concrete Barn have some architectural and artistic interest. The southern, principal elevation has the most architectural and artistic interest due to the originally symmetrical composition of this façade. This has been compromised somewhat by the infilling of two of the windows with brick, which imbalances the façade slightly. It is unknown whether the symmetry of the principal elevation was the result of careful design or simply informed by the requirements of the building's intended use. As a possible show building for the early cement industry in South Cambridgeshire, a designed architectural symmetry is likely in order to demonstrate the abilities of the material. Alternatively, as a functional building constructed as cheaply as possible, it is more likely that the symmetry is fortuitous or informed by the requirements of the owner.



Figure 5.2: Southern elevation illustrating a blocked-up window (outlined in blue)

The ground floor openings are all situated beneath a segmental arch in order to better spread the weight of the upper floors on the building. The arches add some visual interest to the building, contributing to the architectural significance of the building.

The use of concrete construction also contributes to the architectural interest of the building, as an early use of a new material that did not become commonplace until following the Second World War.

The substantial amount of graffiti that decorates the interior and exterior of the building detracts from the ability to understand the construction method of the building but does give the building some artistic interest. In particular, the 'DE JAVU' graffiti on the eastern elevation is particularly prominent, and a recognisable feature of the area for railway passengers passing by. The graffiti's attribution to local Graffiti Artists, All Type No Face adds to its artistic value, and links it to other graffiti in the area.



Figure 5.3: Eastern elevation of the Concrete Barn, featuring 'DE JAVU' graffiti.

Internally, the ground floor arcade provides some architectural interest, due to its regular geometry, and the use of segmental arches matching those used for the ground floor doors and windows.



Figure 5.4: Ground floor arcade

Additionally, the openness of the first floor allows the scale of the building to be appreciated, contributing to its architectural interest. In particular, the visibility of the pine roof trusses allows for an understanding of the building's structure beyond that of its concrete construction, as well as an appreciation of the craftsmanship associated with the building (

Figure 5.5).



Figure 5.5: First floor showing timber roof trusses

5.3 Historic interest

The Concrete Barn has historic interest as an early example of a concrete building constructed in Cambridgeshire. It also reflects the beginning of the development of the Cam Valley cement industry, which was latterly a major contributor to concrete becoming a common building material. However, as the manufacturer of the cement for this building is unconfirmed, and the building's role in the development of the cement industry unclear, this historic interest is somewhat limited

The barn's function in association with the Shepreth branch of the Great Eastern Railway also contributes to its historic interest, as part of the era of railway freight, and as a building designed to facilitate the movement of goods onto and off trains. However, as the exterior elements of the building which enabled the movement of goods have not been preserved and the railway sidings have been removed, the ability to understand the historic interest of the building has been diminished.

Consequently, although the Concrete Barn does hold some historic interest, this is limited by the lack of information confirmed and loss of some elements of the building.

5.4 Setting

The setting of the Concrete Barn contributes to its significance as it facilitates the ability to understand the function and operation of the asset. The Concrete Barn's proximity to the railway line was the primary reason for the building being constructed where it was, and the survival of this visual relationship aids the ability to understand this element of the Concrete Barn's history. Additionally, the Concrete Barn's location in an agricultural context is unchanged since its initial construction, which consequently helps to appreciate the original design intent and appearance of the building. More recently, the Concrete Barn has been used for agricultural storage, which strengthens the link between the building and its setting.

During consultation with the Conservation Officer, it was noted that whilst the agricultural setting does contribute to the ability to understand the asset and its historical use, this is not as significant as the historic fabric of the building itself. This indicated that the surrounding area could be developed in a way that the significance of the building would remain intact and evident.



Figure 5.6: Contextual image of the Concrete Barn in its agricultural setting.

6 Conclusions

The significance of the Concrete Barn is primarily provided in its surviving built fabric, which has archaeological, architectural and historic interest. The exterior of the building, with the exception of the loss of glazing and the original doors, and the addition of graffiti, has survived in a well-preserved state. The interior has been compromised somewhat by substantial amounts of graffiti, litter and the degradation of areas of the timber floor due to exposure.

The functional, originally symmetrical, design of the building contributes to its architectural interest, reflecting consideration for the appearance of the building as well as its use. The segmental arches above the ground floor openings and in the ground floor arcade are also functional, yet provide architectural interest. The large, open first floor also provides architectural interest, allowing for an understanding of the scale of the building and the craftsmanship associated with the construction of its roof. The scale of the space also points towards the building's possible use for storage. The remains of the original barn doors allow for an understanding of the original appearance of the building and how it operated. As a pioneering example of a no-fines concrete building, the walls of the building also contribute to its significance, as they demonstrate the use of concrete in Cambridgeshire at an earlier date than otherwise understood. The extensive amount of graffiti on the exterior inhibits the ability to appreciate the concrete construction in some areas but adds another layer of archaeological interest to the building.

Internally, the surviving elements of the building's original fabric contribute to its archaeological and historic interest, with the ramp being of particular significance, as it facilitates an understanding of the function of the building. However, this is inhibited somewhat by the removal of the railway sidings and the infill of the openings on the northern elevation, which make this original use less apparent.

The setting of the Concrete Barn, particularly its proximity to the railway line, contributes to the significance of the asset, as it facilitates the ability to understand the function and operation of the asset. During consultation with the Conservation Officer, it was noted that whilst the rural landscape which forms part of the setting also contributes to the ability to understand the asset and its historical use, this is not as significant as the historic fabric of the building itself. In particular, it is the built fabric itself that provides evidence of cement being used during the late nineteenth century in Cambridgeshire, which is central to the building's heritage significance.

Possibilities for the future of the Concrete Barn is outlined in further depth in the Options Appraisal (418368-MMD-ENV-XX-RP-EN-0008), which has been informed by this Statement of Significance. In order to ensure the best outcome for the Concrete Barn, this Statement of Significance and the Heritage Options Appraisal should be considered in tandem, to allow a balanced decision informed by the history and significance of the building to be reached. Further discussions with the Local Authority Conservation Officer could help to inform this decision-making process. Alterations to the setting of the Concrete Barn should aim to preserve the relationship between the building and the railway line, as the most important element of the building's setting.

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8 Appendices

A. List Description

Summary of Building

A warehouse and later barn of mass concrete construction dated around 1880.

Reasons for Designation

The concrete barn at Foxton, Cambridgeshire, is listed at Grade II for the following principal reasons:

Architectural interest:

* as an early, rare and substantially intact survival of a mass concrete warehouse and barn and a pioneering application of a material which has become the most widely used construction material of the present age.

Historic interest:

* for its relationship to the development of the Cam Valley cement industry, a major contributor to the growth of concrete as a building material.

History

The barn 200m west of Foxton Station was constructed after the development of the railway in 1851, and before the Ordnance Survey of 1886. It appears to have been constructed in connection with the early cement industry developing in Foxton (and Cambridgeshire more generally) at the end of the C19. The building's no-fines mass concrete construction is unusual for its date. It makes use of large gravel aggregate and very few fine sands, a method that was not common until after the Second World War. The shuttered lifts can easily be seen on the exterior where there is no render present. Positioned close to the (no longer extant) railway sidings, the building's plan form suggests it originated as a transit warehouse. Stored goods at the first floor could be ramped directly down onto rolling stock on the north side of the building. While the internal ramp survives, none of the corresponding access arrangements on the south side are in position. The original railed doors at first and ground floor are missing, and the means by which materials were taken up to the first floor is unclear.

The earliest record of a cement industry in Foxton appears in an advertisement in the Cambridge Chronicle, October 1876. At that date, concrete construction was still relatively uncommon. A barn in Buscot, Oxfordshire, dated around 1870 is reputed to be the earliest agricultural building of concrete construction in England (Grade II National Heritage List for England entry 1284916).

Many of the building's original apertures have been blocked, its railed loading doors have been lost, and any remaining elements of the original cast iron fenestration have been fragmented and ruined. The principal structural elements, however, including the exterior walls, undercroft arcade, floors and roof have all survived. The slate roof coverings are thought to have been replaced since 2010.

Details

A warehouse and later barn of mass concrete construction dated around 1880.

MATERIALS: the walls are constructed of no-fines mass concrete. The angled queen post roof, suspended first floor and other structural timbers are pine.

PLAN: the building's two storeys appear to have an open internal plan. Goods appear to have been loaded into the building on the south side at first floor, and distributed to the railway via a ramp on the north side. A single internal staircase at the north of the building provides access between the floors.

EXTERIOR: the building sits beneath a hipped roof covered in slate. The long south elevation is un-rendered and has a central entrance at ground floor, beneath a wide segmental arch. On each side of the entrance are two window openings, two of which are now blocked, also beneath segmental arches formed from massed concrete. At first floor there are three square windows beneath flat timber lintels, interspaced by two large loading doors. Both of the loading doors, and the ground floor entrance have partially surviving rails or fixings from which a sliding door could be suspended.

The un-rendered west elevation is blank at ground floor and has one blocked central window, and a surviving window opening on the right hand side.

The east elevation is covered in cement render and has a central window opening at first floor.

The un-rendered north elevation borders the railway line and could not be inspected in detail. It features two window openings at ground floor, and a blocked central loading door with its base just beneath the level of the first floor, rising to the height of the eaves.

Fragments of the building's original cast iron fenestration can be seen in some of the window openings.

INTERIOR: the ground floor is divided along its length by an arcade of seven shallow, rendered, arches supporting the pine joists of the first floor. On the north side a concrete wall supports the underside of the access ramp that leads to the loading door, and a flight of steps leading to the first floor.

The first floor has no ceiling and no internal walls. Many of the original joists and floor boards survive.

Centrally at the north side of the room the access ramp is set into the floor, and passes between an H-framed timber structure. This structure relieves the weight of the tie beam which would otherwise rest on the lintel of the loading bay.

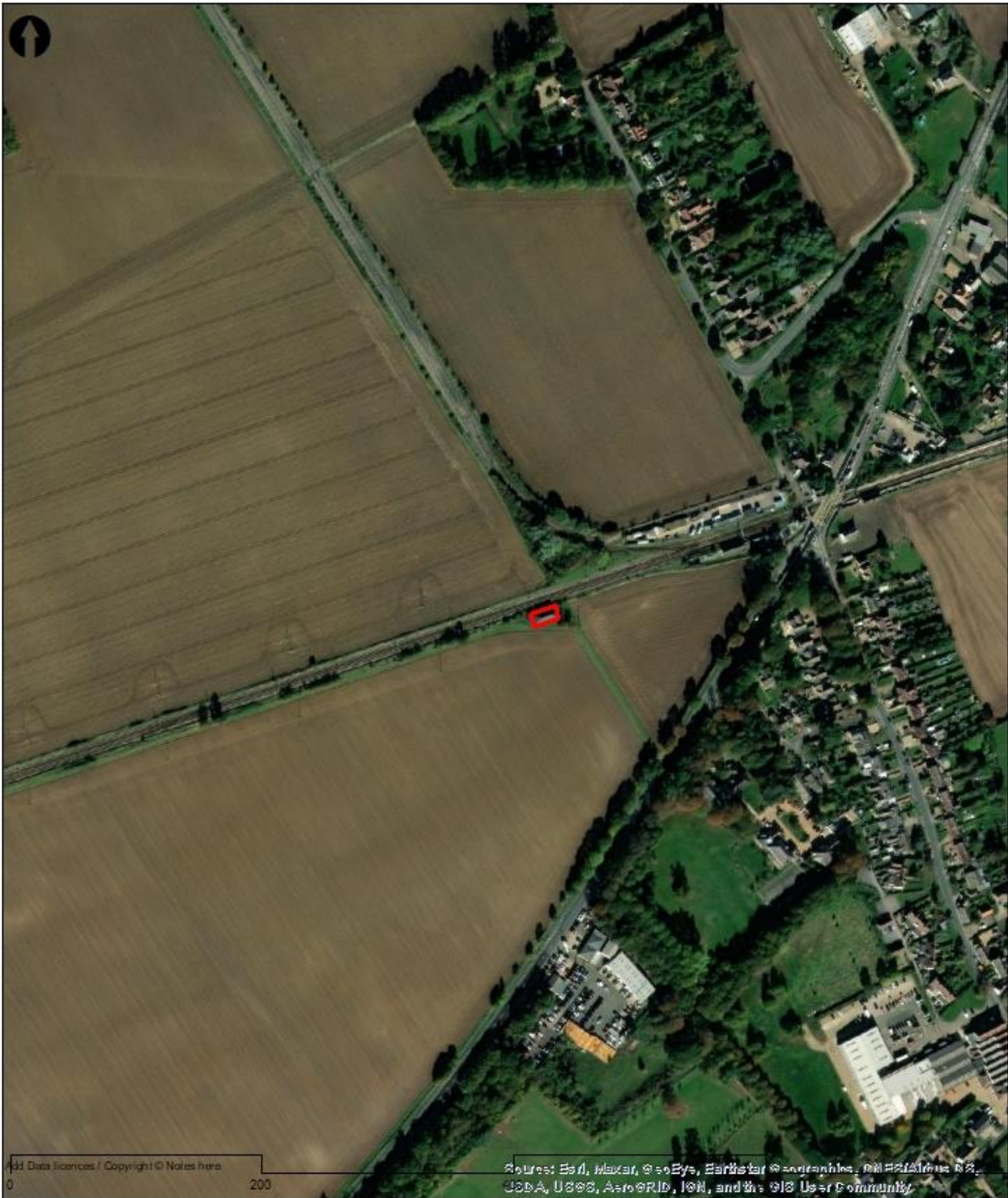
Selected Sources:

Other

1st edition Ordnance Survey 1886

Applicant supplied sources

B. Site Plan



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| 21/05/21 | L Gray | K Luker | J Timothy | 1:4,206 | 418368-MMD-ENV-XX-GIS-EN-009 | PRE | P1 |

