Appendix 9.2: Historic Building Record for Stock Belonging to the Wealden Brickworks, Langhurstwood Road, Horsham, West Sussex

HISTORIC BUILDING RECORD FOR STOCK BELONGING TO THE WEALDEN BRICKWORKS, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX

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CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

1.1 Planning background

SLR Consulting have been commissioned by Britannia Crest Recycling to undertake a Level 2 (English Heritage) historic building survey on buildings known as the former Wealden and Warnham Brickworks, Langhurstwood Road, Horsham, West Sussex (centred upon NGR 517113 134331 (**Figure 1**)). This building complex consisted of a large steel-framed shed containing late 20th century concrete kilns, and is located within the western part of a larger site which is identified as a heritage asset within the West Sussex Historic Environment Record (WSHER). This includes WSHER MWS5146 ("Brickworks, Warnham Station") and MWS10177 ("The former Wealden Brickworks, North Horsham"). Recently, the owners have been granted planning permission for redevelopment of the site (WSCC/018/14/NH), subject to Condition 13, which requires a programme of investigation for recording of the historic building stock prior to demolition.

The building survey was undertaken in line with national planning policy on archaeology and the built heritage (National Planning Policy Framework - NPPF). The survey was specifically designed to record the buildings in advance of demolition and site development.

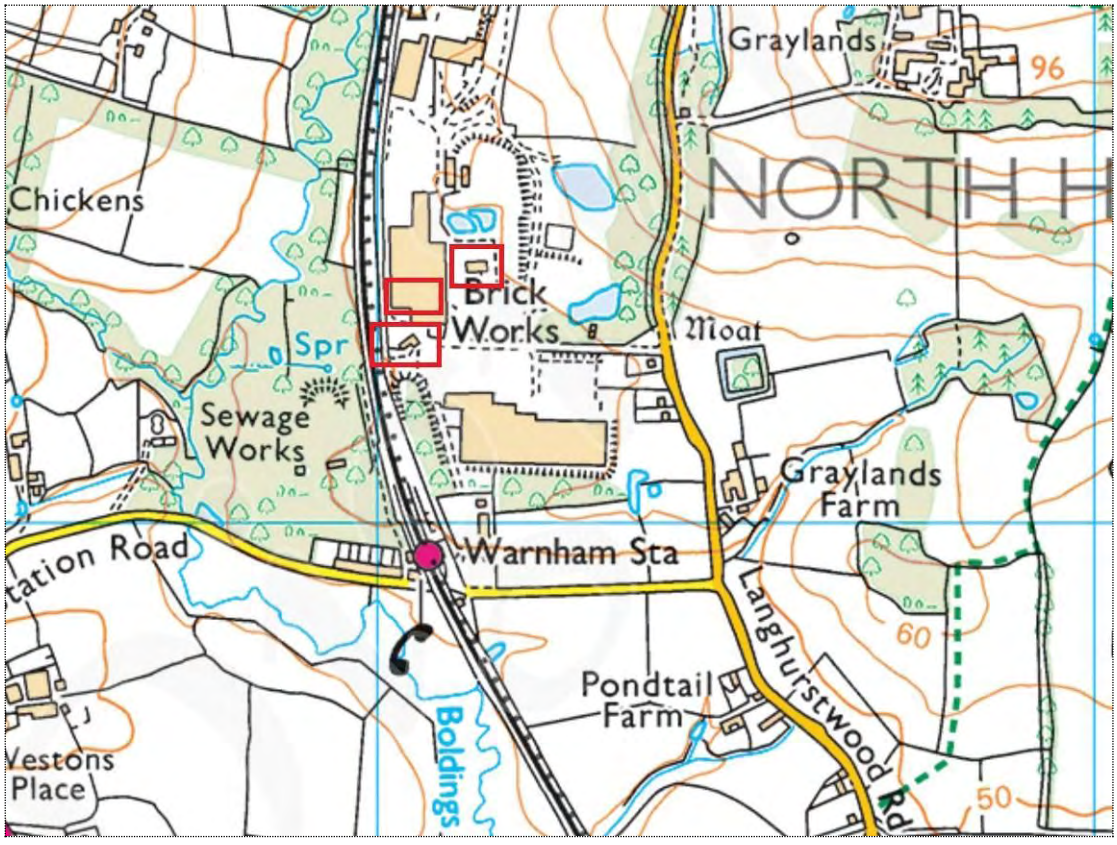


Figure 1:
Site location (building complex highlighted in red)

This phase of work follows recommendations made within an EIA undertaken by SLR Consulting in 2012 (section 12.84). The EIA indicated that there were no significant recorded heritage assets that predated the 20th century (12.75) and that although the buildings within the application site were of low importance, they nonetheless

contained value in the contribution they could make to regional research frameworks in helping to provide primary evidence relating to brick manufacture, processes and management (12.76). Other buildings within the wider area of the brickworks beyond the application site were perhaps of more significance, but a Level 2 recording of the structures before demolition was considered an acceptable mitigation strategy.

Unfortunately the kilns within the shed identified for the Level 2 recording were demolished, prior to the archaeological work having been undertaken; however, other buildings have been retained, prior to refurbishment, and therefore the West Sussex County Council (WSCC) Archaeologist has suggested a post-facto recording of the demolished kilns using available documentation, plans and photographs, together with a Level 2 survey of the remaining buildings. It should be noted that the kilns that until recently occupied this site date from the mid-1970s. Inspection of the site revealed no evidence of any early 20th century kiln activity, although the foundations may survive beneath the various concrete surfaces that cover the western section of the site.

1.2 Site location

The site is situated within an existing and extensive brickworks complex approximately 1.2km north east of Warnham and 0.8km north of Horsham in Horsham District, West Sussex. The site is centred on TQ 171343, bordered to the west by the North Downs Line railway, to the east, north and south by further industrial units, and is accessed via a road running west from an entrance on Langhurstwood Road.

1.3 Geology, topography and land-use

The solid geology of the site comprises mudstone of the Weald Clay Formation (BGS Geoindex). No superficial geology is recorded within the site; however the site is partially identified as worked ground, located peripheral to a former brick clay extraction pit.

The ground within the curtilage of the site is broadly level at 50m AOD, and comprises extensive concrete hardstanding surrounding existing industrial buildings. There is a belt of vegetation in the north east corner.

1.4 Quality standards

This report has been prepared with reference to specific guidelines provided by the Chartered Institute for Archaeologist's (CIfA) *Standards and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures (2014*) *and* English Heritage's *Understanding Historic Buildings: A guide to good recording practice* (2006).

2.0 HISTORICAL BACKGROUND

2.1 Chronological development of the brickworks

The brickworks west of Langhurstwood Road, has over its 100-year history undergone many changes, both in site layout and name. The site stands over a broad band of Weald clay which forms part of a deep clay deposit known as the Low Weald Formation. The brickworks site off Langhurstwood Road, known during the early part of the 20th century as the Warnham Brickworks, is one of 800 or so sites in Sussex that produced brick and other ceramic domestic wares between the mid-19th century and the early part of the 21st century.[1]

Historic mapping indicates that towards the end of the 19th century the application site lay within open agricultural fields, flanked to the west by the Dorking, Horsham and Shoreham Line of the London Brighton and South Coast Railway (1875 OS Map **Figure 4 Map 1**). The site was surrounded by fields and woodland; a landscape that remained largely unchanged at the end of the 19th century (1897 OS Map). At this time clay extraction had commenced at Warnham Brick Yard to the south-west. At the same time two railway sidings had been installed which fed into the up-line of the railway (as shown on the OS map of 1912 **Figure 4 Map 2**).

Clay extraction and brick manufacture was underway within the application site at the turn of the 20th century, appearing between the publication of the 1897 and 1912 OS maps (1912 OS map). The operation included clay extraction across the northern half of the site, with a tramway connecting the working clay pit to the processing buildings and kilns in the northwest. A water tank and engine shed were located around the centre of the site on rough ground. A site access was gained by the creation of tracks in the south west corner of the site to cross the railway line and also eastward onto Langhurstwood Road. The site was initially purchased and developed by the Peters' family in 1888. Soon after it was successively merged with the Sussex Brick Co. Ltd. and later, with the Sussex and Dorking United Brick Companies.[2] In 1896 the family purchased a further 90 acres located on the western side of the railway line; however, this land was sold three years later to the Sussex Brick Company. A new siding was installed on the down-line which imported coal for the running of the kilns.[3] The sidings on the eastern side of the railway line extended close to the three kiln sheds in order that the finished product could be efficiently-loaded onto rolling stock (**Figure 2**). The site layout from this aerial image is identical to the layout on the Ordnance Survey map of 1912 (see **Figure 4 Map 2**).

[1] Beswick (1993, 199-201) lists 16 brickworks that stood within the vicinity of Horsham, including the 'Brickworks North of Warnham Station'.

[2] Martin R, 2003. *A report on the structures at the former Wealden Brickworks, North Horsham, West Sussex*. Sussex Industrial Archaeological Society unpublished report p. 2.

[3] This siding comprised two lines by 1927.

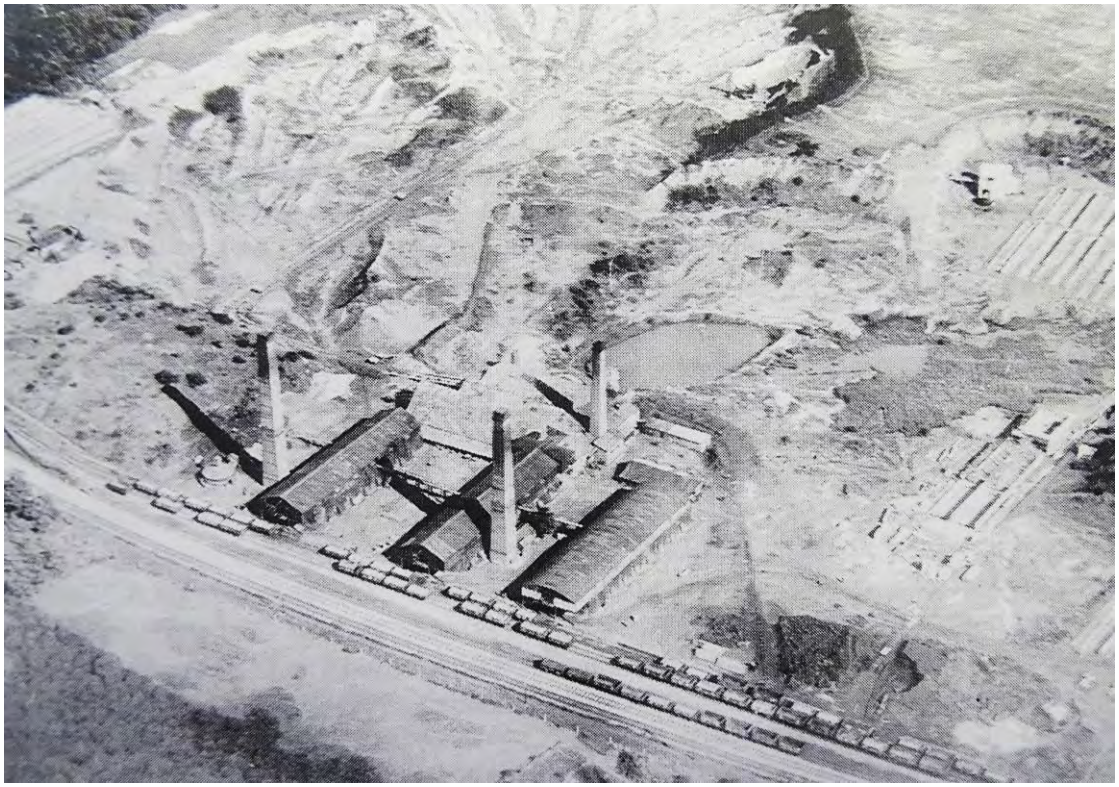


Figure 2:
An aerial view of the Warnham Brickworks, taken in 1928 (after Beswick 1993)

The OS map of 1912 shows three kilns. The third kiln was constructed sometime after 1903 which resulted in an annual production of 12 million pressed bricks. In addition to production of pressed bricks, two seasonal brickyards were producing 8 million bricks using the top 2 metres of the surrounding clay field (Beswick 1993, 88). At this time, the general trend towards the brick industry was one of decline; however, brick production at Warnham bucked this trend, mainly through ingenious methods in marketing. Production was increased in 1912 when the company purchased a steam excavator (**Figure 3**). According to newspaper accounts of the day, this purchase cost £1,250 which was a sizable investment in 1912. It was estimated that the excavator could move 400 tons each day, enough to manufacture 100,000 bricks. Prior to this innovation, clay had been largely dug by hand using a 'graft'. Prior to moulding and firing, clay was stacked in a c. 10 m mound (or curf), 2-3 m in height and stacked close to a [steam or diesel-driven] pugmill.[4] Following the installation of the mechanical excavator, Warnham Brickworks installed a set of tramways between the various clay pits and the processing shed. Following World War I, the clay pits at Warnham (as elsewhere) were being excavated to greater depths and by the 1930s one of the tramways at Warnham had been upgraded to become a light railway, having its own diesel locomotive and rolling stock (probably using a rail gauge of 2' 6"). Elsewhere on the site, a wire-rope haulage system was in use.

[4] A useful account of the brick-making process is in Beswick (1993, 91-3) and Muggeridge (1985).

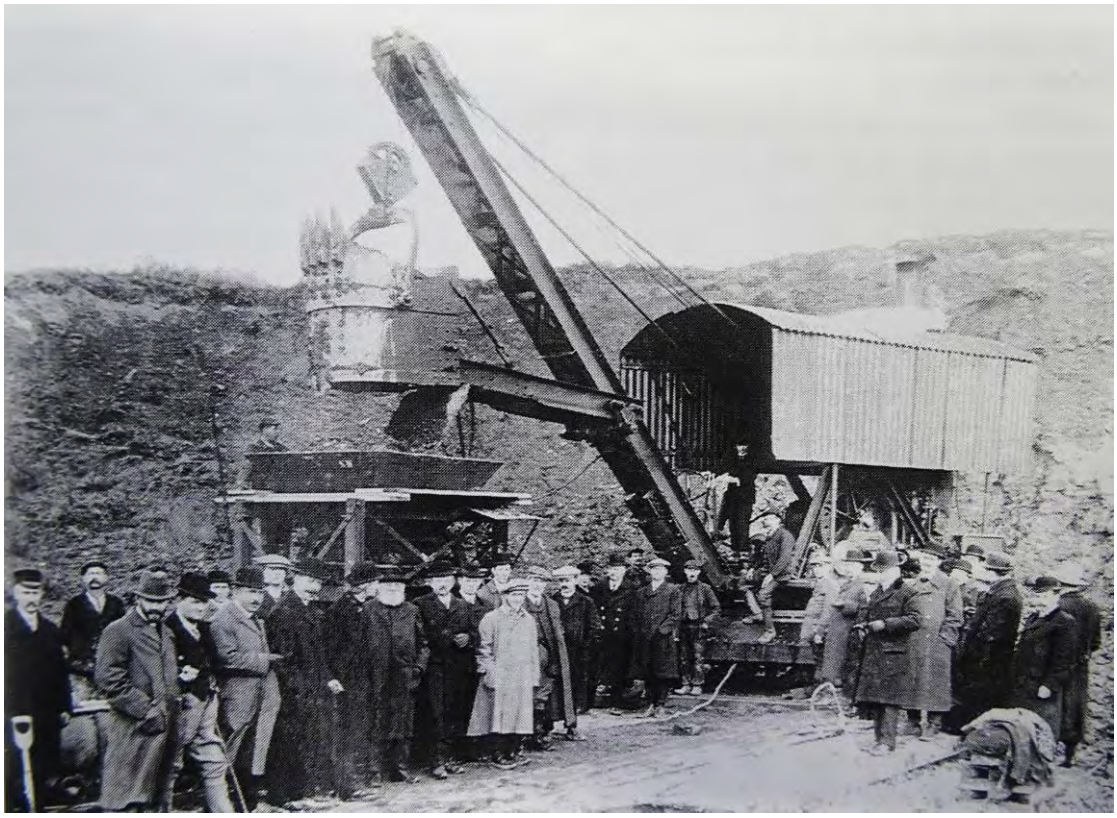


Figure 3:
The steam excavator and a proud workforce (after Beswick 1993)

Despite advances in mechanisation, many of the processes involved in brick making at Warnham were still executed by hand, certainly up until c. 1940. Brick stamping of Wealden red-facing bricks still required an employee to laboriously stamp each brick. By 1934 Warnham had installed a triple mould 'Berry' machine which could prepare each mould, shape [press] the brick using pugged clay at a much faster rate than by hand.[5] An operative was required, however, to take away any surplus clay from each mould. [Green] bricks were then transferred to wheeled drying racks. Following a proscribed period of drying, the racks were wheeled from nearby drying sheds to the kilns. Up to 140 [imperial] tons of clay could be processed for each firing. This process was first introduced during the mid-19th century and was labour-intensive, however, by the mid-20th century it had become largely automated.

The brickworks complex had expanded to encompass the full extent of the application site, with an extensive clay pit to the north-east and buildings complex extending northwards along the line of the adjacent railway. The expansion correlates with the installation of automatic moulding machinery in the early 1960s which would have facilitated a rapid increase in production capacity. In the latter part of the 20th century the brick works complex continued to expand. Within the application site these changes were primarily associated with alterations to the building stock. In 1974-76 this included the creation of a large open-sided shed in the centre of the site, a complex of smaller buildings to the east and a kiln in the south east corner.

[5] Bricks made by this process were known as 'Common Press Bricks'.

By 1980 the south-westernmost kiln had been removed, and by 1991 the kilns had all been removed, to be replaced by the existing large shed covering the western side of the site (**Figure 1**). The single-storey brick building which is still present to the east had been retained, and a small building in the south west corner also. Brick production at the site had ceased by the late 1990s.

The decline in brick-making appears to have started during the 1950s, a result of the use of new building materials such as concrete and breeze blocking. This slump in demand continued throughout the latter part of the 20th century. During this time much of the golden age of brick making in Sussex had creased. However, a number of brickworks, including Warnham became part of a large merger and continued to manufacture pressed bricks. This merger, which incorporated a number of Sussex brickworks, was collectively known as the Redland Group and was the main driving force for brick-making in the South-east of England at this time.

Although little documentary information is available concerning the last phases of brick production at Warnham, it is more than likely that a Hoffman-type kiln process was in operation, referred to in this report as a Scottish Kiln process. The product was for pressed bricks, and in general Hoffman kilns from the early 20th century appear to have been replaced with single rectangular-shaped kilns built of concrete (rather than brick) with multiple flues (or fire holes) which would allow the hot air to freely circulate.

2.2 Notes of Frogs

As part of the corporate identity for certain brick makers it was fashionable to print-stamp the company's name/logo into the up-face frog of each brick. Frogs (or hollows) were first introduced in the late 18th century. Between the late-19th century and the early 20th, frog stamping was undertaken by hand. Frogging of each brick allowed a reduction in the weight and quantity of clay used, as well as a key for mortar. At Warnham, frogged stamps include:

SUSSEX BRICK & ESTATES Co Ltd

S B E C

SUSSEX BRICK Co Ltd

SUSSEX & DORKING Utd BRICK Co Ltd

WARNHAM S B C

WARNHAM R B

WEALDEN

2.3 Map regression

For this element of the report, four historic maps were consulted; the earliest dating to 1875 (**Figure 4 Map 1**). This map shows the site of the former brickworks to be a series of enclosed fields, several of which are surrounded by coppice or the remnants of ancient woodland. To the west of the site and cutting through the landscape from north to south is the London, Brighton and South Coast Railway (Dorking, Horsham & Shoreham Branch).

Between the publication of the 1875 and 1912 Ordnance Survey maps, a brickworks site occupies the current site and includes three rectangular kiln units (probably Hoffmann types), a processing shed and a tramway which would have transported locally-sourced clay to the processing shed (**Figure 4 Map 2**). The tramway appears to have been a transient/temporary element, whereby it could be relocated should the clay source become exhausted or uneconomic to extract. Access to the site was via a narrow track leading from Langhurstwood Road. At this time the site was owned and worked by the Peters' family. The site works was later merged with the Sussex Brick Co. Ltd to form the Dorking United Brick Company (see section 1.3 above). By 1927, the brickworks at Warnham (known as the Sussex Brick Company - a previously used company name) had installed a fifth kiln suggesting that output had significantly increased, along with improved product quality.[6] In addition to the upgrading of the kilns, Warnham also installed a new and more efficient brick drier and moulding machinery. Between c.1927 and c.1976 each of the Hoffmann kilns were continuously being upgraded or repaired, which resulted in the brickwork that constructed the internal walling of each kiln brick being replaced with either concrete of breeze blocks.

According to the Ordnance Survey map (National grid Series) of 1976, the site had been greatly extended to include up to 10 kilns, additional processing buildings and offices (**Figure 4 Map 3**).[7] It is probable that during this time the site reaches its zenith in productivity. Based on the layout of the site, three of the four buildings included within the study are present on this map. Present on this map is the boiler room, the office/reception building and the air-blown heating system that would have fed into at least two of the Scottish kiln-types.

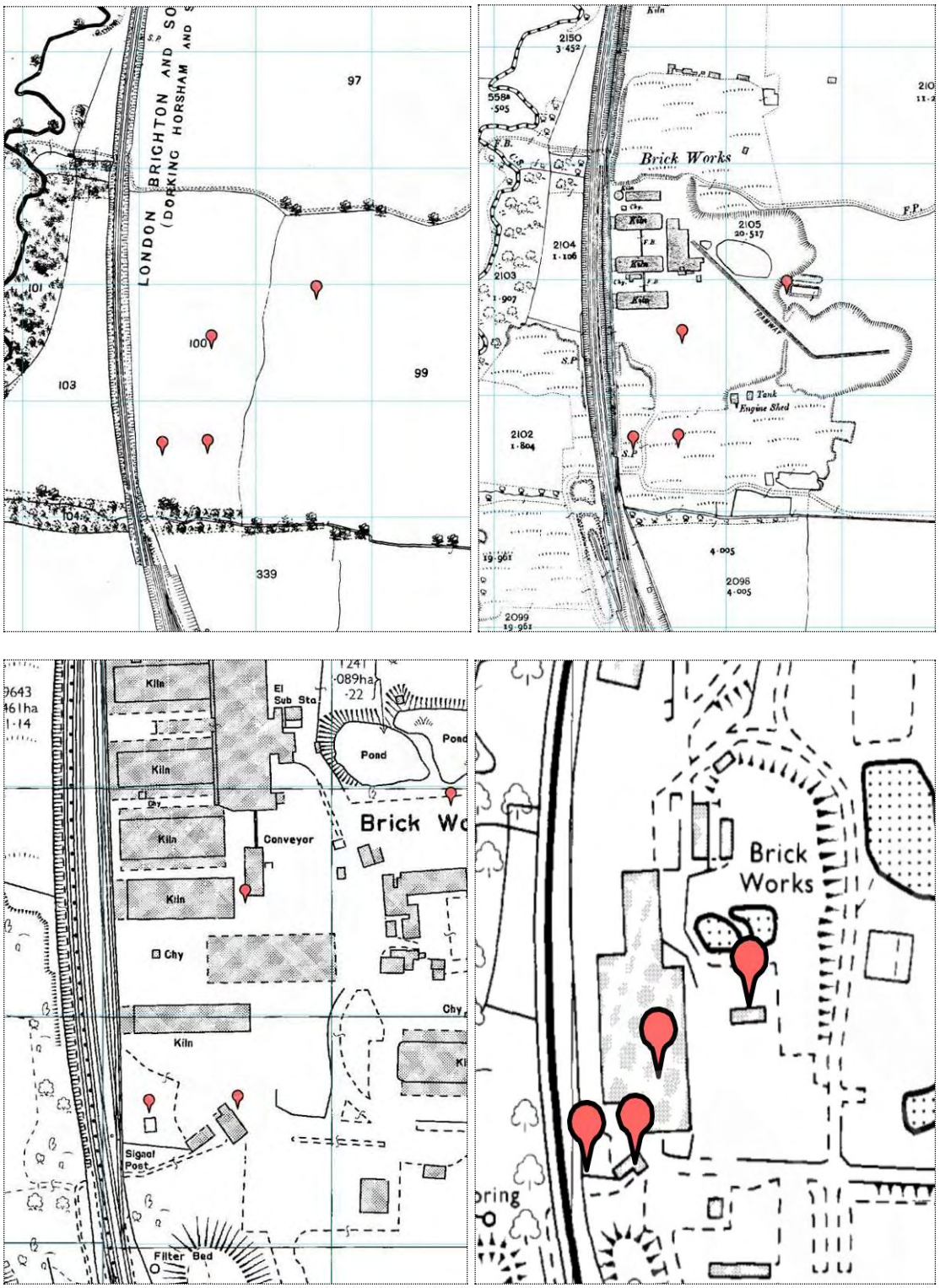
The Hoffmann kilns present on the 1912 Ordnance Survey mapping appear to have been replaced by the mid-1970s by probable gas or electrically-driven kilns. This new kiln technology worked on the same processes as a Hoffmann kiln, that of an interconnecting passage or ducting system that transferred thermostatically-controlled hot air from an heat exchange unit (**Plate 15**) to a single kiln or multiple kilns. Within the main shed there is clear evidence of this process (see **Plates 13 to 21**). The historic mapping of 1976 suggests that all of the 10 kilns present on site were heated in this way. The heat exchange from this process would have provided a constant and continuous high temperature that could be sustained indefinitely. The heat exchange, via a series of (in this case) thin metal-lined ducts could be maintained from one kiln to another without any loss of heat. Unlike its predecessors whereby one room [kiln] was initiated heated [fired] before the next, the kiln system at the Wealden Brickworks would be heated simultaneously, forming a heat exchange circuit. Currently surviving within the shed are three pieces of evidence which reflect this process: the heat exchanger (**Plates 13 to 16**), the ducting (**Plates 17 to 20**) and a single concrete platform that once formed the floor of a probable kiln (**Plate 21**).

By the time of the publication of the OS map of 1993 (**Figure 4 Map 4**), the brickworks was in serious decline and as a result many of the buildings from the previous map had been removed. It is probable that several kilns were in use during this time. A large steel-sheeted shed was constructed during this time with a later addition added to the north sometime after 1993. It is probable that the heat exchange unit from the 1970s was still in use during this time.

[6] At the same time, one of the older kilns had been rebuilt and enlarged.
[7] The type of kiln is unclear.

Figure 4:
1875, 1912, 1976 and 1993 Ordnance Survey mapping

(red points indicate the location of the buildings)



3.0 AIMS, OBJECTIVES AND METHODOLOGY

3.1 Aims

The scope of work for the Historic Building Survey was:

- To record through a digital photographic record all standing elements of the buildings including fixtures, fittings and surviving machinery;
- To establish the history and development of each element of the complex; and
- To provide a permanent archaeological record of the buildings and their immediate surroundings.

3.2 Objectives

The Buildings and structures, identified by the monitoring authority for recording and labelled 1 to 4 (**Figure 5**) include:

- (1) A large steel-framed building known as '**The Shed**' (the largest building). It was within this building that a number of kilns were recently removed before archaeological recording could take place. The photographic survey of this building concentrated on extant ductwork and a heat exchanger; both pieces of apparatus belonged to a relatively recently installed kiln system. One of the staff at neighbouring Messrs Wienerberger had known the site since the 1990s and he was approached for assistance in writing the record of the kiln network and their function, producing a *post-facto* recording element of the machinery. The results from this source were negative. However, additional desk-based research which was gathered from Horsham Research Library, did reveal a near complete history of the kiln development on this site.
- (2) **The Welfare Building**, located within the central part of the brickworks site dates sometime after 1976. Inspection of both the external and internal layout shows that up until closure in 2004, this building functioned as a Welfare centre for the employees. The internal layout comprised a reception area, canteen, shower and washroom. Within the eastern section of the building there was a room used to chemically analyse clay samples.
- (3) Based partly on historic mapping, the **Office and Reception building** dates to sometime before the publication of the 1962 Ordnance Survey map. The building comprises several phases of construction. It was agreed that this building should receive a detailed description that involved an internal and external measured survey (in order to ascertain building phases, aperture blockages/re-piercings). However, due to health and safety considerations, this element of the project could not be undertaken. Instead, a detailed photographic record was undertaken and the building phasing ascertained.
- (4) This small rectangular building, referred to as the equipment building in the WSI, is in fact a **Boiler House** which contains a heating system that would have provided heat for non-industrial buildings within the site's boundary. The external area of the building was partly covered by trees and overgrowth. Internally, the building contains a rubble floor. Despite its condition, the monitoring authority requested that the building be photographically recorded and a description made of the various features, fixtures and fittings. Prior to recording this building, vegetation and rubble were removed.

Figure 5
The location of each of the four buildings for survey

3.3 Methodology

Implementation of the recording survey followed English *Heritage's Understanding Historic Buildings: A guide to good recording practice* (2006):

A Level 2 is a descriptive record, made in circumstances similar to those of Level 1 but when more information is needed. It may be made of a building which is judged not to require any fuller record, or it may serve to gather data for a wider project. Both the exterior and the interior will be viewed, described and photographed. The record will present conclusions regarding the building's development and use, but will not discuss in detail the evidence on which these conclusions are based. A plan and sometimes other drawings may be made but the drawn record will normally not be comprehensive and may be tailored to the scope of a wider project.

A Written Scheme of Investigation was agreed[8], and the data gathering and fieldwork provided an analysis of the building's age, fabric, form, character, development (phasing) and methods/techniques of construction. All sources were fully referenced. Documentary evidence and historic images were initially sourced from Wealden Brickworks and Britannia Crest, and from the West Sussex Record Office, Chichester and Horsham Library.

[8] SLR Consulting September 2015 *Former Wealden Brickworks, Langhurstwood Road, Horsham, West Sussex: Archaeological Written Scheme of Investigation*

Where possible building sections/elevations and their setting were photographed using a high-resolution digital camera system; each image was scaled (**Plate 1 to 60**). Included within this report is a plan showing the direction of each image.

3.4 Data Sources

This document has been produced following consultation with the sources of information summarised in **Table 1**

Table 1
Information Sources

Information Type	Source
Online desk-based	Heritage Gateway/Magic
Desk-based	West Sussex County Council's HER (online)
Desk-based	British Geological Survey (BGS)
Documentary	Horsham Library Service (Research Section)
Documentary	Commercial and heritage documents - see bibliography
Observations	Site visits to the former Wealden Brickworks

Figure 6
Air photograph from 2001 showing industrial building to rear of Reception

4.0 HISTORIC BUILDING SURVEY

The historic building survey was undertaken in October 2015. The survey included the recording of four buildings/structures and several structural anomalies that relate to former buildings that previously stood on the site (**Figure 5**). Additional photographs can be found included in the 2012 ES chapter on Cultural Heritage.

4.1 Main Building - The Shed (NGR TQ 17056 34357)

4.1.1 External

This large fabricated shed stands within the western section of the site, standing over a number of former kiln sites (**Plates 1 to 12**). The building, orientated north-south is constructed in three phases; the earliest located as an extension at the southern end (**Plates 1 & 2**) with the main shed divided into southern and northern parts. This multi-phased building is constructed of a series of large bolted-on steel frame units (delineating its current elevation and roof pitch). The steel-frames are covered with steel square-ridged corrugated sheeting.

Incorporated into the southern extension elevation is a single sliding door which occupies much of the original building section. Above this opening is the name of the brickworks 'Wealden' (**Plate 1**). The earliest section of the shed is visible from the south and east (**Plates 3 and 4**), with a clear join between the two phases located along the eastern elevation (**Plates 5 and 6**). At the southern end of the building, there appears to be evidence of building/structures immediately in front of the southern range (**Plates 7 and 8)**. The three building phases all appear to sit on a low brick plinth, which itself sits on a concrete base (e.g. **Plates 9 and 10**). The building measures c. 185 (N-S) by 70 m (E-W) [at its widest points]. Concerning the southern section of the shed, a steel joist, forming part of the superstructure of the building, rests over the brick plinth (**Plate 10**).

The precise dating of when the three phases were constructed is unknown; however, based on historic mapping, the earliest building date suggests c. 1980, whilst the second and third phases are estimated to post-date 1990. It should be noted that elements of earlier building activity may have been incorporated into the shed build. This assumption is based on exposed brickwork that is found within a west-facing elevation of the southern section of the shed (**Plates 8 to 10**).

Surrounding much of the building is an *ad hoc* concrete floor. Careful scrutiny of the various floor sections show the ghost lines of previous buildings/structures, including a loading bay, located on the western side of the building and a series of equally-spaced steel joist stanchions which have been cut at floor level.

4.1.2 Internal

Internally, the main part of the shed complex is divided into two sections - labelled for this report as 'North' and 'South'. The northern building space is open with no evidence of any historic features or structures present (**Plates 11 and 12**). Access to this space is via a large door opening on the eastern elevation.

The southern building, currently used for separating plaster from plaster board sheeting, has within its fabric no evidence of former kiln activity (**Plates 13 to 21**). Inspection of this space revealed no surviving evidence of historic kiln activity, although the foundations of such structures may underlie the concrete floor. Located at the northern end of the southern space, however, are the damaged fragmentary

remains of a heat exchange system (**Plate 13**), originally used to blow hot air around a series of [Scottish] kilns. Inspection of this apparatus reveals that the system is relatively new, probably contemporary with the final kiln production during the later part of the 20th century (c. 1980).

Inspection of the heat transfer station, associated with the heat exchange system showed that this was largely intact (**Plate 14**).[9] The room comprised a series of vertical partitions that were lagged with compressed asbestos lining. Heat would have been generated via a gas or electricity supply and then circulated from the transfer station via the metal-sheeted ducts into each of the kilns (**Plates 15 to 19**). Hot air (at a prescribed constant temperature) would have been circulated via strategically-placed air convectors placed between each kiln (**Plate 20**). Although the kilns no longer stand, there is evidence of a concrete platform which stands to the south-west of the ducting (**Plate 21**). The size and shape indicates that a Scottish kiln (rather than a Hoffmann kiln) was in use; however, there was no evidence of the loading hatch or the firing holes.

4.2 Welfare Building (NGR TQ 17142 34360)

4.2.1 External

The welfare building is located east of the Shed and is present on the 1993 Ordnance Survey Series mapping (but not present of the Ordnance Survey map of 1976). This single-storey building, rectangular in plan is orientated east-west (**Plate 22 to 29**). It was considered by the author of the Scott-Wilson Heritage Statement (2009) to be offices; however inspection of each of the rooms within this building suggests an employee's welfare, hygiene and recreation centre. Incorporated into each of the elevations are a series of crinkle-moulded metal casements - an indicative casement-type that was used in industrial buildings from the 1950s onwards.

The building, constructed of *rustic*-style brickwork and supporting a pitched compressed asbestos sheeted roof, is accessed by a centrally-placed double door opening on the southern elevation (**Plate 22**); redundant door and window openings occur on each elevation. Many of the door and window casements are not symmetrical (**Plate 23**). The southern elevation comprises a set of five slightly recessed window openings that are arranged unevenly across the elevation; a similar arrangement is present on other elevations. The window casements comprise four window panes that are arranged in an 'H' design (e.g. **Plates 26 - 29**). Each metal window casement sits on a [imperial-sized] 6" tiled sill (note: there are no lintels).

The main access to the building is via a UVPC double-door casement with side window openings on either flank (**Plate 25**). The door casement is probably a replacement for an earlier one. Immediately in front of the main access is a brick-lined step.

4.2.2 Internal

The internal arrangement of the buildings comprises two large rooms, one used as a canteen, the other as a storage room. Dispersed along the eastern, northern and southern flanks are a series of smaller rooms that, prior to closure, were dedicated to

[9] Due to health and safety considerations, SLR's archaeologist did not access this room.

employee welfare. It should be noted that the original use of this building is unknown, and it is possible that it was used as offices at one time. Access to the building is located along the southern elevation (**Plate 25**). The main access leads to a rectangular reception area with door openings on all flanks (**Plate 30**).[10]

The door opening on the northern wall of the reception area leads to a large rectangular room that was, until 2004 used as a canteen/rest room (**Plate 31**). Within this room are a set of free-standing tables. The western wall contains graffiti which dates to 2004 (**Plates 32**). To the east of this room were a further three rooms that included a kitchenette (**Plate 33**), toilet/wash room (**Plate 34**) and a room used to analyse fired brick and clay samples (**Plate 35**). Within the same room there was evidence for a space to house a dyeline printer (**Plate 36**).

Within the northwest section of the building is a large rectangular plan storeroom (**Plate 37**). The floor of this and the neighbouring wash/shower room is of ceramic brown-finished tiles (probably imperial sized tiling - 6" square) (**Plate 38**).

4.3 Offices and Reception Building (NGR TQ 17053 34255)

Located to the south of the main shed (Building No. 1) is a single storey multi-phase building constructed of brick. The building is constructed in at least three phases, the central eastern section being the oldest and supporting a corrugated asbestos sheeted mansard-shaped roof (**Plate 39**).[11] To the rear of this an extension is apparent (Figure 6). It is not clear if the original functionality of this building was as office space or as a reception building. The two extension phases flank either side of the earlier central section. The precise date of the original building and its two extensions is unclear; however, a site inspection by SLR Consulting suggests that the south-eastern section is the earliest of the two. The building (with both extensions) appears on a map dated to 1966 and 1976 (**Figure 4 Map 3**), but is absent from the map of 1912 (**Figure 4 Map 2**) and a map of 1948. Based on the brickwork and the internal decor, the building complex probably dates to c.1950.

4.3.1 External

The north-east facing elevation contains the main entrance to the building (**Plate 40**). Due to security reasons, all window openings and subsidiary doors were boarded-up. The main door opening is centrally-placed within the elevation and comprises a slightly recessed timber casement that contains two glass-panels (upper and lower). The door furniture suggests that this door opening is not original (**Plate 41**). Immediately above the door casement are a line of upturned bricks which represents a decorative [non-functional] lintel; similar to those that are incorporated over the window openings.

Connected to the north-west wall of the central section of the building is the latest phase (Phase 3), a single-storey lean-to extension with a pitched asphalt covered roof (**Plate 42**). The brickwork used in the construction of this extension can be described as a red brick and is different in colour to the brickwork that constructs the central section of the building. To the rear of the building, much of the brickwork has

[10] Inspection of the internal arrangement of the building shows that since closure there has been much vandalism (e.g. **Plate 32**).
[11] The neighbouring company Weinerberger kindly removed all pallets that stood directly in front of the building in order to allow the external elevations to be surveyed.

been painted (**Plates 43 to 46**); however, there are several sections of brickwork that are not painted (**Plate 43**). This brickwork, located on the rear wall of the central section of the building complex probably represents the original brickwork. Similar to the building's frontage, the majority of the window openings have been covered by security metal sheeting (**Plates 44 and 45**). Revealed on the rear section of Phase 3, the north-western extension, however, is a UVPC window casement (**Plate 44**). An internal inspection of this building section reveals that the UVPC casements are restricted to this extension only.

4.3.2 Internal

The internal arrangement of the building complex is in a dilapidated state (**Plate 48**). The internal arrangement comprises offices that are serviced by a central corridor; a kitchen (see **Plate 47**) and a toilet/wash room (see **Plate 51**). The central corridor leads to a side door that is incorporated into the south-eastern section of the building (**Plate 50**). It is within this section of the building that a south-eastern extension was added to the original building (see **Plate 40**). The extension includes two small offices that are located either side of the central corridor. In each of the rooms/spaces there were no noteworthy fixtures or fittings to report; however, exposed are the internal faces of the crinkle die-cast window casements (see **Plates 47 and 49**).

4.4 Boiler House (NGR TQ 17037 34246)

4.4.1 External

Located within the south-western corner of the site and partly obscured by trees and shrub vegetation is a small sub-rectangular building that is constructed of brick; each elevation supports a metal-sheeted corrugated sloping roof (**Plate 52**). Access to this building is via a small opening in the northern elevation. Previously, this opening would have housed a door and accompanying casement (the remains of a panelled door lies close by). The brickwork, which is under threat of collapse, is arranged in a header/stretcher design. Externally, there no noteworthy fixtures or fitting to report, except that immediately east of this building is a large pile of used bricks which probably indicates the presence of a former building (see **Figure 4 Map 3, and Figure 6**).

4.4.2 Internal

The internal arrangement of the surviving machinery is rather confused. It is clear that up to four Hamworthy condensing boilers stood against the western side of the building (**Plates 53 and 54**). All four boilers fed into condensing apparatus above each unit and their source of power was via an electrical junction box, located on the eastern wall of the building (**Plate 55**). Heat output was controlled by at least two gasket burners (**Plate 56**). The use of the boilers are unknown; however, it is more than likely that based on their British Thermal Unit (BTU) output, they were not used within the kiln heating process, but an adjacent building lay between the Boiler House and the Reception building which might have required this level of heating.

5.0 SUMMARY OF THE CULTURAL HERITAGE VALUE FOR EACH STRUCTURE

The four buildings, along with other structures within the vicinity of the former brickworks constitute a locally-important cultural heritage resource, showing remnants of the former brickworks (**Plates 59-61**). Historic documentation and mapping shows that the site was first developed as a brickworks during the latter part of the 19th century or the early part of the 20th century. The site was chosen for the close proximity of a substantial clay source. In addition the site stood adjacent to a railway line which would allow the importation to the site of materials and machinery associated with brick manufacture and the exportation of brick products. As a consequence, sidings for the up and down lines were constructed and in use by 1912.

From the early part of the 20th century, the site rapidly grew with the construction of a series of sheds that probably housed Hoffmann-type kilns (**Figure 7**); the kiln sheds numbered around ten, each shed supporting a number of rectangular kilns (similar to those that survive at Stewartby in Bedfordshire - see **Plate 58**), As brick production increased, so the demand for local clay rose, and by the mid- to late-20th century semi-permanent tramways and a narrow gauge railway were installed, along with mechanised means of extracting the clay from its source. During the latter part of the 20th century (after 1976), most of the Hoffmann kilns at Warnham appear to have been replaced (upgraded) with smaller Scottish kilns; a concrete platform of one of these survives in the southern section of the main shed (**Plate 21**).

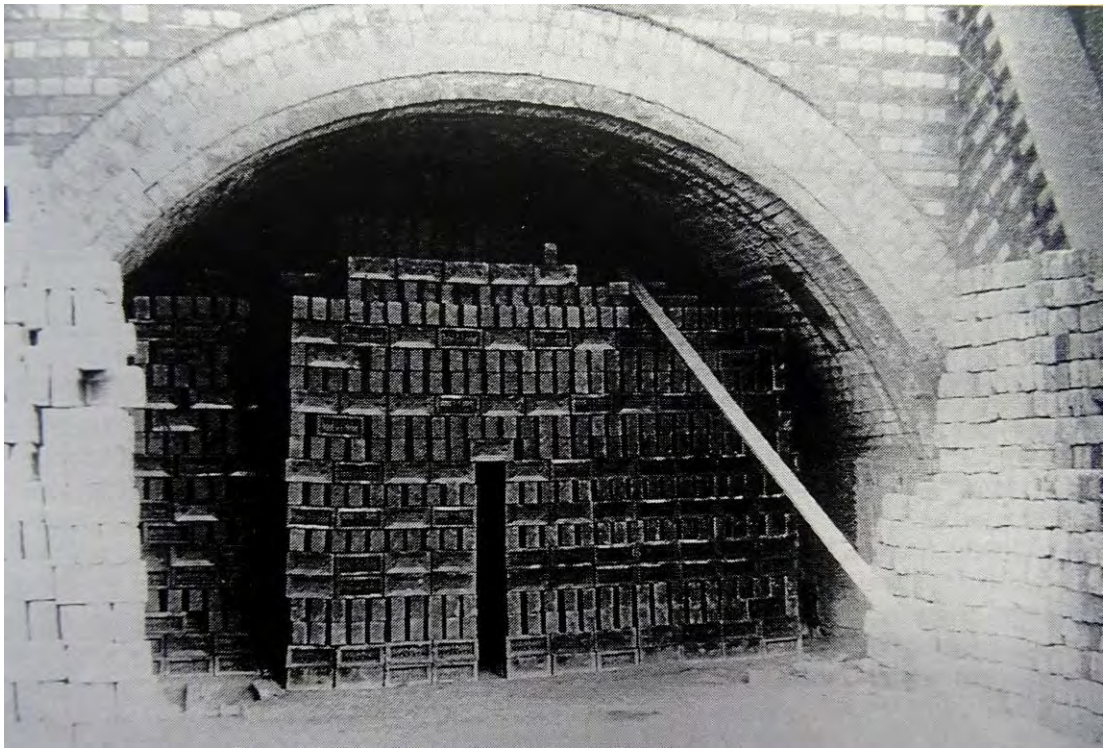


Figure 7
The entrance to a Hoffmann kiln from Warnham, date unknown

(source: Beswick 1993)

The surviving machinery/apparatus associated with the installation of the Scottish kilns includes the heat exchange unit (oven) (**Plates 14 – 16**) and the ducting and air

convector (**Plates 17-20**). The surviving ducts forms only a fragment of what was originally installed.

Based partially on historic mapping and brick types, the welfare and offices/reception buildings date to the mid- to late-20th century, although elements of the offices/reception building may be slightly older. The welfare building is a single-phased building which dates to c. 1980. The building contains rooms/spaces that were devoted to the welfare of employees - e.g. shower room, first aid centre and canteen. Much of the surviving decor is an indication of late 20th century use.

The offices/reception building is constructed in three phases; the earliest being the central section. Overtime, this single-storey building was expanded on its NE and SW gables (see **Plate 40**).

The boiler room contains machinery, including four Hamworthy boiler units and associated condensers. These probably date from the latter part of the 20th century and are contemporary with the building in which they stand.

6.0 RECOMMENDATIONS

In summary, it is the view of SLR Consulting that all four buildings possess very limited archaeological and cultural heritage value and a preservation-by-record account of each structure contained within this report will be an adequate mitigation requirement. It is clear that the building stock will be severely impacted upon in order to make way for any development.

7.0 BIBLIOGRAPHY

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This report has been prepared by SLR Consulting Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client.

Information reported herein is based on the interpretation of data collected from various sources which has been accepted in good faith as being accurate and valid.

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PLATES

The Shed

Plate 1. The Main Building, referred to as the shed, looking NE

Plate 2. The Main Building, referred to as the shed, looking NW

Plate 3. The rear section of the Main Building, referred to as the shed, looking NE

Plate 4. The southern elevation of the Main Building, referred to as the shed, looking north

Plate 5. The rear elevation section of the Main Building, referred to as the shed, looking SE

Plate 6. The rear section of the Main Building, showing the join between the old and new builds, looking east

Plate 7. The southern section Main Building, looking north

Plate 8. Older section of the Main Building, looking east

Plate 9. Corner section of the Main Building, showing the join between the two construction phases

Plate 10. Mid-to Late 20th century brickwork underneath the corrugated metal sheeting, looking east

Plae 11. Internal view of the northern shed section, looking SE

Plate 12. Internal view of the northern shed section, looking NE

Plate 13. View showing redundant heating ducts and heating exchange system, looking north

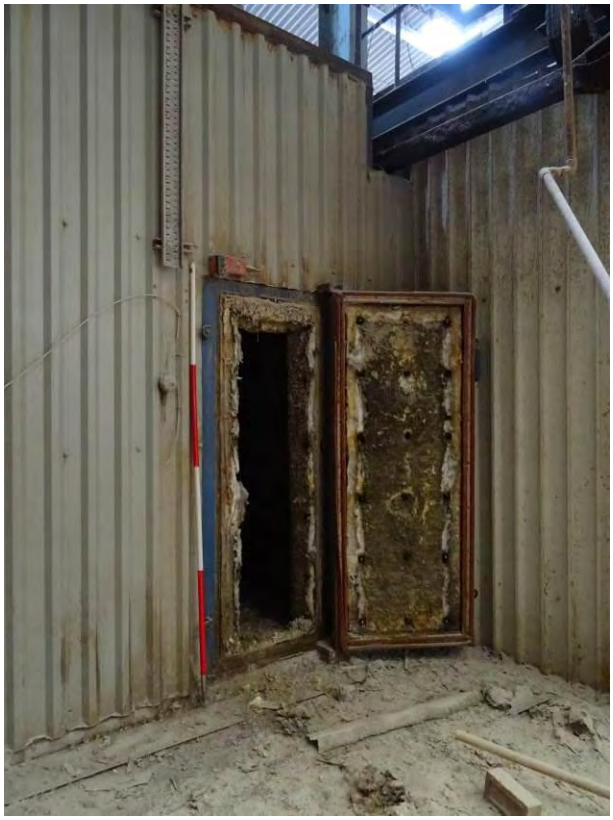

Plate 14. Gas-fired heating transfer station,
Located against the northern internal wall looking SE

Plate 15. View showing redundant heating ducts and heating transfer station, looking NE

Plate 16. Remains of a [gas-supplied] heating transfer station

Plate 17. Principal heating duct, extending from heating transfer station, looking north

Plate 18. View showing redundant heating ducts a strut supports, looking north

Plate 19. View showing redundant heating ducts and strut supports, looking NW

Plate 20. Hot air transfer station, located within the southern section of the shed, looking NE

Plate 21. The platform of one of the dismantled kilns, located within the southern section of the shed, looking SW

WELFARE BUILDING

Plate 22. General view of the Welfare Building, looking NW

Plate 23. General view of the site and the eastern gable of the Welfare Building, looking west

Plate 24. Southern elevation of the Welfare Building, looking north

Plate 25. Detail of the southern elevation showing main entrance

Plate 26. Western gable end of the Welfare Building, looking east

Plate 27. Detail of the southern elevation showing crinkle casements and brickwork

Plate 28. Detail of the western gable showing crinkle casements, UVPC door and brickwork

Plate 29. Detail of showing crinkle casement and surrounding brickwork

Plate 30. Lobby area within the southern section of the Welfare Building, looking NE

Plate 31. Dining and recreation room, located within the northern section of the building, looking SE

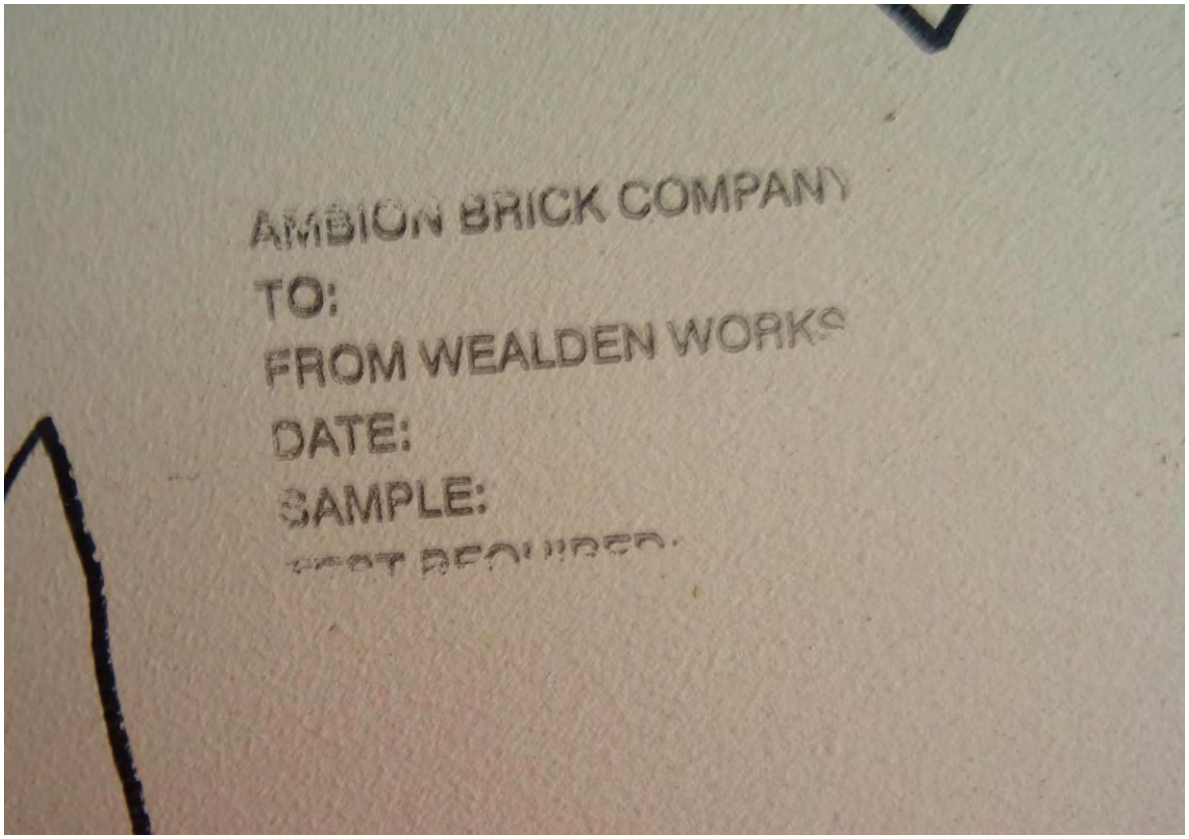

Plate 32. Section of a graffiti-wall dating to 2004,
prior to closure of the Welfare Building

Plate 33. Kitchen area, located within the southern section of the Building, looking SW

Plate 34. Washroom located within the SE section of the Building

Plate 35. Geo-chemical testing room, located at the eastern end of the building, looking NE

Plate 36. Alcove for a dyeline copier within Geo-chemical testing room, looking SE

Plate 37. Maintenance Room located within the NW section of Building

Plate 38. Shower/wash room located within the western section of the Building

OFFICES AND RECEPTION BUILDING

Plate 39. Reception building prior to the removal of stacked pallets, looking S

Plate 40. Facing view of the building (following the removal of pallets), looking SW

Plate 41. Main entrance leading to the reception and offices, looking NW

Plate 42. NE extension to the main building, looking NW

Plate 43. Brickwork located on the NW rear wall of the building

Plate 44. Rear section of a later extension to the main building (see Plate 31)

Plate 45. Rear view of the Building, looking south

Plate 46. Rear section of the building (foreground) with the southern section of the Shed in the background, looking north

Plate 47. Kitchen area within the main section of the building

Plate 48. Office located within the rear of the main building

Plate 49. Power and Computer hub room located within the NE section of the Main Building

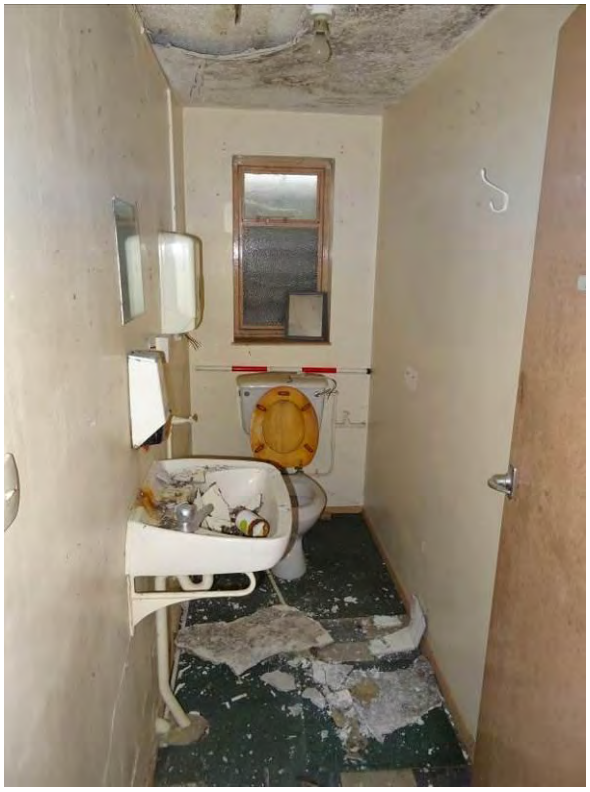

Plate 50. Rear corridor leading to a fire door within the SW elevation
Plate 51. One of two toilet/washrooms within the Main Building

BOILER ROOM

Plate 52. Southern view of the northern elevation of the Boiler Room

Plate 53. Internal view of the gas-fired boiler condensing range, looking SW

Plate 54. Detail of one of the Hamworthy boiler condensers, looking west
Plate 55. Electrical circuit board box connected to the eastern wall, looking south

Plate 56. Valve system for the release of excess steam, located about the boiler system

Plate 57. Two of potentially five gasket burners located east of the boiler units

Plate 58. The Hoffmann Kilns at Stewartby, Bedfordshire, similar in design to those that were constructed at Warnham in 1909

Plate 59. Panoramic view of the former brickworks, looking NW
Plate 60. Panoramic view of the eastern section of the former brickworks, looking W
Plate 61. Panoramic view of a former cladded kiln area of the brickworks, looking NE

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