

# KDK ARCHAEOLOGY LTD

## Historic Building Watching Brief

The Hayloft Chiltern Way Academy Church Lane Wendover Buckinghamshire



#### Quality Check

Author	Karin Kaye MA MCIfA and Chris Martin-Taylor BSc	Version 445/WCL/2.1		Date	20.07.2020	
Editor	Ellen Shlasko PHD	Version	445/WCL/2.1	Date	24.07.2020	
Revision		Version		Date		

© KDK Archaeology Ltd 2020 No part of this document is to be copied in any way without prior written consent.

Every effort has been made to provide as complete and as accurate a report as possible. However, KDK Archaeology Ltd cannot accept any liability in respect of, or resulting from, errors, inaccuracies, or omissions contained in this document.

© Ordnance Survey maps reproduced with the sanction of the Controller of Her Majesty's Stationery Office. KDK Archaeology Licence No. 100053538



Unit 3 Leighton Road Leighton Buzzard Bedfordshire LU7 1LA Tel: 01525 385443 Email: office@kdkarchaeology.co.uk Website: www.kdkarchaeology.co.uk





#### Contents

Sur	mmary	1
1.	Introduction	1
2.	Aims & Methods	6
	Historical Background	
	Description	
	Conclusions	
6.	Acknowledgements	31
	Archive	
	References	

#### Appendices:

1.	Photograph List	34
2.	OASIS and Site Data	37

#### Figures:

1.	General location	3
2.	Site location	4
3.	Proposed development; roof and southeast elevation	5
	Section of Truss 4, west side	
5.	Photo plans	. 28
	External roof structure plan	

#### Plates:

1.	South elevation (37)	9
2.	West and south elevations (40)	10
3.	South elevation (38)	10
4.	East elevation (36)	10
5.	North elevation (35)	10
6.	North elevation (34)	10
7.	Truss 1, facing southwest (1)	11
8.	Truss 1, facing northwest (2)	11
9.	Truss 1 mortice (4)	11
10.	Truss 2, facing west (5)	11
11.	Truss 3, facing east (10)	11
12.	Truss 3, facing east (12)	11
13.	Truss 3, facing east (13)	12
14.	Truss 3 collar beam, facing east (14)	12
15.	Truss 3 soffit mortice, facing east (15)	12
16.	Truss 3 mortices, facing east (17)	12
17.	Truss 3, facing west (6)	12
18.	Truss 3, facing west (7)	12
	Truss 3, facing west (8)	
20.	Truss 3 carpenter's marks, facing west (20)	13
21.	Truss 3 carpenter's marks, facing west (21)	13
22.	Truss 3 carpenter's marks, facing west (22)	13
23.	Truss 3 carpenter's marks, facing west (23)	13
	Truss 4, facing east (24)	
25.	Truss 4 carpenter's marks, facing west (25)	14
26.	Truss 4 carpenter's marks, facing west (26)	14
27.	Truss 5 location in F6, facing west (27)	14



28	Truss 5 in the roof space above F5, facing east (41)	1/
	Exposed rafters adjacent to Truss 3, facing south (28)	
	Exposed rafters adjacent to Truss 3, facing south (28)	
	Rafters exposed in F4, facing south (47).	
	Roof space above F5, facing east (31).	
	South roof, west gable and Truss 1 (84)	
	South roof, Bay 1 (87)	
	South roof, Bay 1 (90)	
	South roof, oblique (85)	
37.	South roof, Bay 1 (88)	. 16
38.	South roof, Bay 1 (86)	16
39.	South roof, Bay 1 (89)	. 16
40.	South roof, Bay 1 (91)	16
41.	South roof, Truss 2 (92)	. 16
42.	South roof, Bay 2 (93)	. 16
	South roof, Bay 2 (95)	
	South roof, Bay 2 (94)	
	South roof, Bay 2 (98)	
	South roof, brick partition and chimney (96)	
	South roof, Bay 3 (100)	
	South roof, Bay 3 (101)	
	South roof, Truss 3 (102)	
	South roof, Bay 4 (103)	
	South roof, Truss 4 (105)	
	South roof, Truss 4 (104)	
	South roof, Bay 5 (106)	
	South roof, Bay 5 (107)	
	South roof, Bay 5 (109)	
	South roof, Truss 5 (110)	
	South roof, Bay 6 (111)	
58.	South roof, Bay 6 (112)	. 19
59.	South roof, Bay 6 (113)	. 19
60.	South roof, Bay 6 (114)	. 19
61.	South roof, main chimney (115)	20
	South roof, main chimney (116)	
	South roof, main chimney (117)	
	South roof, Bay 7 scarf joint (120)	
	South roof, Bay 7 (121)	
	South roof, Bay 7 (127)	
	South roof, Bay 7 (124)	
	South roof, Bay 7 (1124)	
	South roof, Bay 7 (119)	
	South roof, Bay 7 carpenter's marks (125)	
	South roof, Bay 7 (122)	
	South roof, Bay 7 (123)	
	North roof, oblique (49)	
	North roof, oblique (50)	
	North roof, Bay 1 (51)	
	North roof, Bay 1 (52)	
	North roof, Bay 2 (53)	
78.	North roof, Bay 2 (54)	22
79.	North roof, Truss 3 (57)	23



80.	North roof, Truss 4 (58)	. 23
	North roof, Bay 5 (61)	
	North roof, Bay 5 (62)	
	North roof, Bay 5 carpenter's marks (64)	
	North roof, Bay 5 (65)	
85.	North roof, Bay 5 (66)	. 24
	North roof, Truss 5 (67)	
87.	North roof, Truss 5 (68)	. 24
88.	North roof, Bay 5 (69)	. 24
	North roof, Bay 6 (70)	
	North roof, Bay 6 (71)	
	North roof, Bay 6 (72)	
	North roof, Bay 6 (73)	
	North roof, Bay 7 (78)	
	North roof, Bay 6 (74)	
	North roof, Bay 6 (75)	
	North roof, Bay 7 carpenter's marks (77)	
97.	North roof, Bay 7 (82)	. 26
98.	North roof, Bay 7 (80)	. 26
	North roof, Bay 7 (81)	
	).North roof, Bay 7 <mark>(83)</mark>	



#### Summary

From May to October 2019 KDK Archaeology Ltd carried out a Historic Building Watching Brief of The Hayloft, Chiltern Way Academy, Church Lane, Wendover in order to fulfil Condition 5 of Listed Building Consent for the proposed re-roofing of the structure. The Hayloft was previously known as the Stable Block and served as the stables for Wendover Manor House. It was built in the early-mid 18<sup>th</sup> century and was converted to a school in 1961. It is primarily timber framed and is faced in brickwork. The work necessitated the removal of clay roof tiles and the exposure of the timber roof structure. Many of the original timbers remain, including the trusses, some purlins and a great number of the rafters. These bore significant details such as carpenter's marks and iron strap braces. Many of the timbers likely date to at least the 17<sup>th</sup> century and were repurposed from an older structure for use in the Hayloft. There was also a significant quantity of modern replacement rafters, probably added when the school was founded in the mid-20<sup>th</sup> century.

#### 1 Introduction

1.1 From May to October 2019 KDK Archaeology Ltd carried out a Historic Building Watching Brief of The Hayloft, Chiltern Way Academy, Church Lane, Wendover. The project was commissioned by R. Cullen on behalf of the Chiltern Way Academy, and was carried out according to a Written Scheme of Investigation prepared by KDK (Dodd 2019), and approved by Buckinghamshire County Council Archaeological Service (BCAS), Archaeological Advisor (AA) to the then Local Planning Authority (LPA), Aylesbury Vale District Council. The relevant planning application reference is 18/03812/ALB.

#### 1.2 Planning Background

This project has been required under the terms of the National Planning Policy Framework (NPPF) as Condition 5 of Listed Building Consent for the restoration of buildings on the site (Reference: 18/03812/ALB).

#### 1.3 *The Site*

#### Location

The Chiltern Way Academy is situated within the town and civil parish of Wendover in the Vale of Aylesbury area, Buckinghamshire. The site is located to the south of the town at National Grid Reference (NGR) SP 87198 07290 (Fig. 1).

#### Description

The Academy lies within Wendover's Conservation Area and is situated in the curtilage of the Grade II listed former manor house. The Hayloft formed part of the 18<sup>th</sup> century stable block to the north of the Academy Complex. The building is a two-storey, brick built structure under a tiled roof. Internally, many of the 18<sup>th</sup> century characteristics have been removed to convert the stables into an educational space and staff accommodation. It is Grade II listed and described by Historic England as follows:

Part of special school, formerly stables to Manor House. 1735. Brick, with initials and date in blue headers. Old tiled roof with large stack to RH of centre, smaller stack to LH. 2-storeys, front of 9 bays with slightly projecting gabled centre and narrow gabled projections in bays 2 and 8. Central carriage way with segmental brick arch now filled with modern windows. Date 1735 in blue bricks above, with 3-light attic casement with segmental arched heads. Flanking gables each have initials DIF in blue headers.



*Irregular casements to LH part, 2 bays of sash windows to RH. Small modern addition with hipped roof at RH end* (Historic England List Entry Number 1118400.)

Access to the Academy is via Church Lane to the east of the Hayloft. St Mary's Church is situated to the north beyond the gardens associated with the Hayloft, and school buildings are located to the south, southeast and southwest (Fig. 2).

#### Proposed Development

The development comprises the re-roofing of the building (Fig. 3).



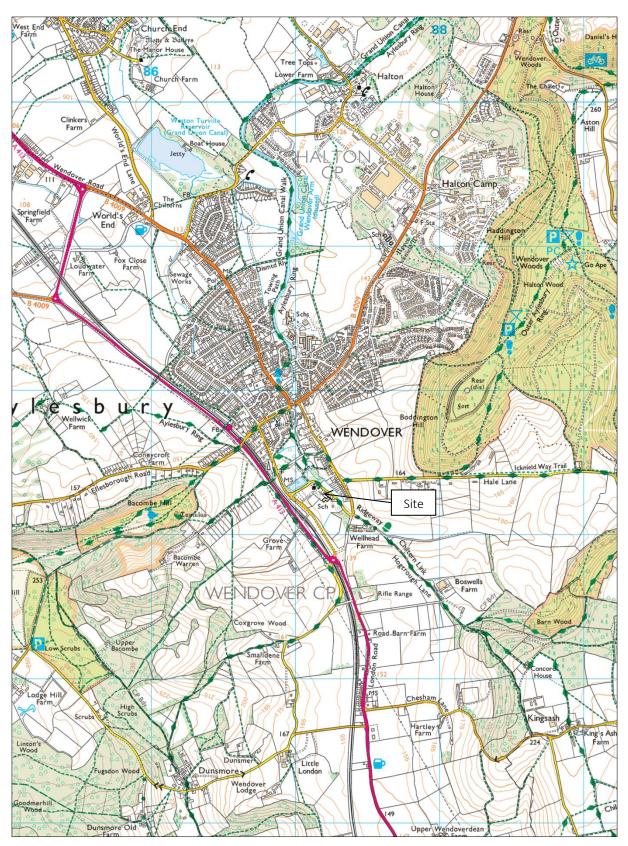


Figure 1: General location (scale 1:25,000)



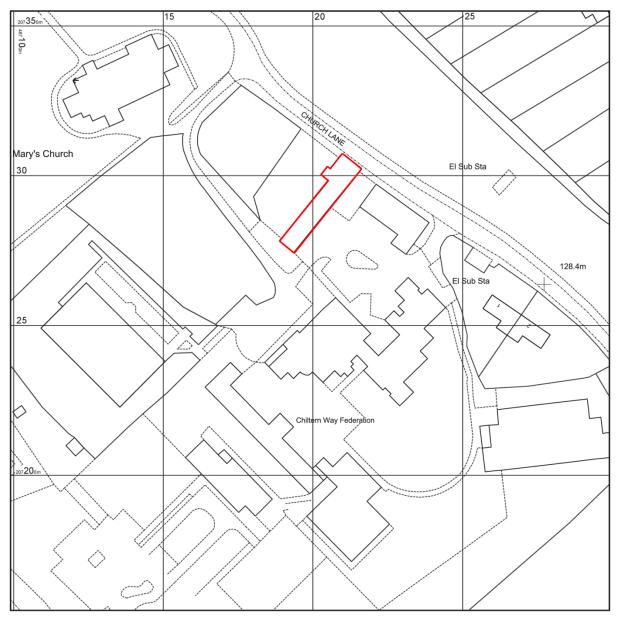


Figure 2: Site location (scale 1:1250)



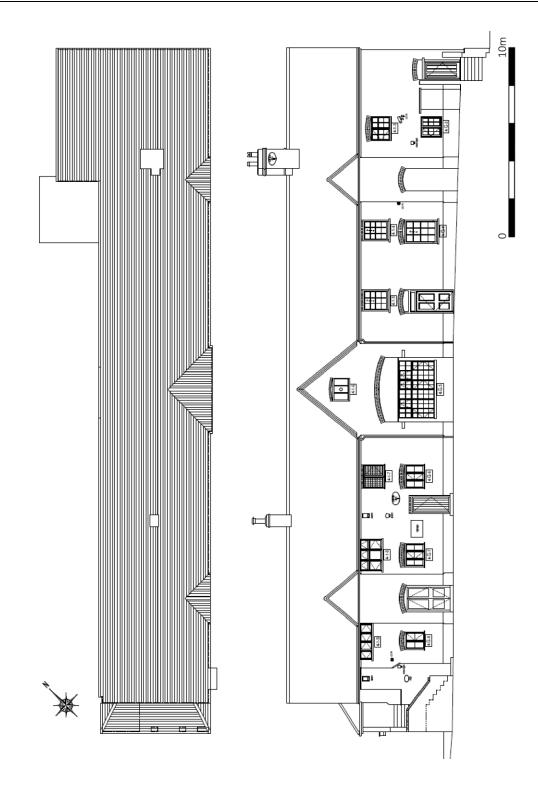


Figure 3: Proposed development; roof and southeast elevation (scale 1:200)



#### 2 Aims & Methods

#### 2.1 **Aims**

As described in the Written Scheme of Investigation (Dodd 2019), the aims of the project were:

- To ensure the archaeological recording of previously unexposed historic building fabric
- To ensure the archaeological recording of all aspects of the development programme likely to have an impact on the historic fabric of the building before and during the works
- To provide an adequately detailed project report that will place the findings of the investigations in their local and regional context, with reference to the relevant regional research agendas.

#### 2.2 Standards

The work conformed to the following requirements:

- The relevant sections of the Chartered Institute for Archaeologists' *Standard & Guidance Notes* (ClfA 2014)
- The Chartered Institute for Archaeologists' *Code of Conduct* (CIfA 2019)
- Current English Heritage guidelines (HE 2015, HE 2016, EH 2008)

#### 2.3 *Methods*

All alterations to the building that impact on the historic fabric or expose previously hidden structural and/or architectural material were monitored by an experienced archaeologist, who also prepared an initial photographic survey of the roof. The recording was undertaken to Historic England Level 3-4.

- A written record was made of each site visit using KDK's Historic Building Restoration Sheet.
- These records were accompanied by sketches.
- In addition, a photographic record was maintained throughout the watching brief.
- The recording was based on drawings made available by the client's agent.

#### 2.4 *Constraints*

The constraints encountered were consistent with those to be expected when recording a building undergoing renovation works. Although measured sketches were made of the roof structure with the highest degree of accuracy possible, some sections of the roof were not accessible due to safety concerns, including areas nearer to the ridge that could not be reached. In these cases, measurements were made from the scaffolding and inaccuracies in recording were compensated for where possible.



#### 3 Historical Background

The modern High Street marks the core of the medieval settlement at Wendover. However, it has been suggested that an earlier settlement existed near to St Mary's Church and Wendover Manor (BCC 2009:6). Wendover is first mentioned in AD970 in the *Cartularium Saxonicum* as '*Wændofron*' meaning 'wending over the stream' or 'white waters', a reference to the Celtic name of a nearby stream (Mills 1991; BCC 2009; AVDC 2011). Prior to the Norman Conquest, Aylesbury and Wendover manors belonged to Aelfheah, alderman of Hampshire who gave them to King Edgar in AD970 (BCC 2009:27).

A Manor at Wendover is recorded in the Domesday Survey of 1086 as land of the king, passing directly from Edward the Confessor to William the Conqueror after the Norman Conquest (Williams & Martin 2002: 395). The manor was assessed at 24 hides, with enough woodland for 2000 pigs and land for 26 ploughs (*ibid*.). Due to the increasing taxes laid on royal manors, the annual value of Wendover Manor increased after the Conquest. Noted in the Domesday Survey as a market town, the Wendover estate also had two mills, both valued at 10s (BCC 2009:27; Williams & Martin 2002: 395).

Ownership of Wendover Manor, which is thought to be where Wendover School now stands, was divided in 1151 between Hugh de Gurnay and Faramus of Boulogne. In 1323, the two manors were returned to the Crown, and in 1339 they passed to Sir John de Molyns until they were again returned to the Crown in 1364(BCC 2009).

The development of the borough from 1227, with its market and fair, led to a new town plan, which left the church, the vicarage and Wendover Manor marginalised except as a local pilgrimage centre. The Rood Cross, venerated for reasons now no longer recorded, was even able to withstand destruction until 1842 (VCH).

An estate map dated 1620, shows the medieval manor stood on the site of the current mid-18<sup>th</sup> century Wendover Manor (CBS:MAR 48). The house itself is Grade II listed and was largely rebuilt in 1871-3 in Elizabethan style by British architect George Devey (Cullen 2018:7; Semmelmann 2011:19). The Manor has been utilized as a school since 1961 and was granted academy status in 2010.

The Hayloft, which is also known as the Stable Block, was constructed c.1735 (Plate 1). The lower floor is currently being used as classrooms with staff accommodation above (Cullen 2018:10).





#### 4 Description

#### 4.1 General

The building is a 2-storey brick built structure under a clay tiled roof (Plates 1 - 6). The first floor is accessed via an external staircase at the western end of the building and an internal staircase at the eastern end. The ground floor was not inspected for this study, but the layout of the first floor and the brickwork in the elevations provided sufficient information to ascertain that the centrally located room (F4) was once part of the carriageway. The date 1735 is picked out in brick above the former carriageway. The east and west walls of F4 are brick built, but the internal wall between Room F1 and F2 is timber built. Although insufficient timberwork was revealed to fully assess the partition, the studs could be seen to be fairly robust and therefore unlikely to date from the early  $18^{th}$  century when the Hayloft was constructed and the scantling of timber components tended to be slender due to scarcity of good quality material for buildings.

For the purposes of this report the building is considered to lie east-west with the front elevation facing south. The trusses are numbered from west to east.

#### 4.2 **Roof trusses** (Figs. 4 and 5, Plates 7 – 32)

Truss 1, which is located immediately inside the west wall of the Hayloft, has a king post on a tie beam that is 24cm high x 21cm deep and a  $10cm^2$  post (Plates 7 – 8). There is a large mortice at the northern end measuring 31 x 7cm, and two large mortices for posts in the soffit measuring 30 x 7cm to the north and 23 x 6cm to the south (Plate 9).

Truss 2 is located at the partition of the kitchen (F2) and the office (F3). The doorway at the northern end has a  $10 \times 11$ cm post to the north and a stave hole in the tie beam above (Plate 10).

Truss 3, which is located at the western end of Room F4, is fully exposed, as is Truss 4 to the east. These are both of a relatively local form and have cranked inner principals and a short king post above the collar beam. These have clearly been re-used as the original cranked inner rafters that supported trenched purlins are now set within a butt purlin roof. Whereas the original trusses were clearly adzed, the newer timbers were machine cut. The mortices on the western face of the tie beam suggest that the truss came from a larger building and was cut down to fit and the mortices in the soffit suggest that the original building was fully timber framed. Peg holes indicate the presence of a former King Post in Truss 3. Of interest are the carpenter's assembly marks which showed tagged Roman numerals on the principal joints of the truss, including the newer rafters (Plates 11 - 23).

Truss 4 has no mortices in the fascia, but does have two in the soffit measuring 23 x 5cm (Plates 24 - 26). Figure 4 shows Truss 4 but its structure is representative of Trusses 3, 4 and 5.

Truss 5 is located within the wall between Rooms F4 and F5. All that can be seen from the first floor is part of the tie beam, however the braces and collar beam can be seen in the loft, where the truss has been filled in with brick to create a partition (Plates 27 - 28).

#### 4.3 External roof structure (Figs. 5 and 6, Plates 33 – 100)

The roof structure was inspected following the removal of clay tiles from the exterior. The general structure of the unaltered sections of the roof is represented by two purlins on each side, with upper and lower rafters. The upper rafters are longer and are laid over the upper purlins, whereas the lower rafters are around half the length of the upper rafters. The upper and lower rafters abut the top and bottom of the lower purlins and do not overlap them, with



the exception of four rafters in the north side of Bay 5. The principal rafters used in the trusses are butted by the purlins.

The majority of the timbers on the south side of the roof are hand worked and appear to date from the  $17^{\text{th}}$  century or late  $16^{\text{th}}$  century at the earliest. The rafters generally measure between 10cm and 14cm, although the principal rafters are slightly thicker at 15cm to 20cm. They are spaced 28 – 33cm apart. The purlins are about 20cm wide (Plates 33 – 72).

Some timbers are modern machine-cut replacements, notably all the rafters in Bay 3 have been replaced, as well as some sporadically replaced rafters in Bays 1 and 2. The replacement rafters are of a far lesser scantling and are no more than 5cm (2 inches) in thickness. A board was placed over the lower purlin in Bay 3, obscuring the original timber, the purpose likely to provide a level base with which to secure the new rafters (Plates 47 – 48). Some historic repairs are evident in Bay 5 with additional rafters measuring 10 - 12 cm added (Plates 53 – 55). The purlins to either side of Trusses 2, 4 and 5 are braced with iron straps (Plates 41, 52 and 56).

Three projecting gablets are present on the south side of the roof, which were added in the  $18^{th}$  century, the largest of the three is centrally located. The original timbers survive behind this and the eastern gablet (Plates 61 - 62). There is a scarf joint in the lower purlin in Bay 7, beneath the main chimney stack (Plate 64). Carpenter's marks are present on the lower purlins in Bays 1, 5, 6 and 7 (Plate 70), as well as on some of the adjacent rafters in Bay 5. Those in the south face of Bay 1 are sequential, but this is not the case elsewhere. Both purlins in Bay 7 have clearly been re-used, and despite the similarity between this part of the roof and the bays to the west, the overall impression was that this is a slightly later or different build. (Plates 65 - 72).

The majority of the rafters on the north side of the roof are modern replacements of the same type found to the south, particularly at the west end (Plates 73 - 80). The exception is most of the rafters in Bay 5 and all of those in Bays 6 and 7, which are still hand cut (Plates 81 - 100). The principal rafters remain unchanged however. The lower purlins were also replaced in Bays 1, 2, 3 and 4 but the upper purlins are still original. More carpenter's marks are present on the original lower purlins on the north side. The marks in Bay 5, though still Roman numerals, are of a distinctly different type than those on the other side of Truss 5 in Bays 6 and 7. Those in Bay 5 are considerably larger, covering the entire width of the purlin, this may represent a different craftsman (Plates 83, 85 and 95). Truss 5 has another iron strap brace (Plates 86 - 87). A modern catslide roof is present at the east end, with modern 5cm (2 inch) rafters that attach to the original hand cut rafters in Bay 7, overlapping them at a shallower angle (Plates 97 - 100). They are placed 32cm (1 foot) apart.

The lower purlin at the east end of the roof has been truncated to allow for the brick gable wall. In contrast, the western end of the roof has been added to, with an additional rafter between Truss 1 and the brick gable end.

The only scarf joints that are apparent on the south side are simple splayed joints.



Photographs: (numbers in red correspond to shot numbers on the Photograph List in Appendix 1)

#### Exterior:



Plate 2: West and south elevations (40)



Plate 3: South elevation (38)



Plate 4: East elevation (36)



Plate 5: North elevation (35)



Plate 6: North elevation (34)



#### Trusses and internal roof structure:



Plate 7: Truss 1, facing southwest (1)



Plate 8: Truss 1, facing northwest (2)



Plate 9: Truss 1 mortice (4)



Plate 10: Truss 2, facing west (5)



Plate 11: Truss 3, facing east (10)



Plate 12: Truss 3, facing east (12)





Plate 13: Truss 3, facing east (13)



Plate 14: Truss 3 collar beam, facing east (14)



Plate 15: Truss 3 soffit mortice, facing east (15)



Plate 16: Truss 3 mortices, facing east (17)



Plate 17: Truss 3, facing west (6)



Plate 18: Truss 3, facing west (7)





Plate 19: Truss 3, facing west (8)



Plate 20: Truss 3 carpenter's marks, facing west (20)



Plate 21: Truss 3 carpenter's marks, facing west (21)



Plate 22: Truss 3 carpenter's marks, facing west (22)



Plate 24: Truss 4, facing east (24)





Plate 25: Truss 4 carpenter's marks, facing west (25)



Plate 26: Truss 4 carpenter's marks, facing west (26)



Plate 27: Truss 5 location in F6, facing west (27)



Plate 28: Truss 5 in the roof space above F5, facing east (41)



Plate 29: Exposed rafters adjacent to Truss 3, facing south (28)



Plate 30: Exposed rafters adjacent to Truss 3, facing north (32)





Plate 31: Rafters exposed in F4, facing south (47)



Plate 32: Roof space above F5, facing east (31)



Plate 33: South roof, west gable and Truss 1 (84)



Plate 34: South roof, Bay 1 (87)



Plate 35: South roof, Bay 1 (90)



Plate 36: South roof, view to east(85)





Plate 37: South roof, Bay 1 (88)



Plate 38: South roof, Bay 1 (86)



Plate 39: South roof, Bay 1 (89)



Plate 40: South roof, Bay 1 (91)



Plate 41: South roof, Truss 2 (92)



Plate 42: South roof, Bay 2 (93)





Plate 43: South roof, Bay 2 (95)



Plate 44: South roof, Bay 2 (94)



Plate 45: South roof, Bay 2 (98)



Plate 47: South roof, Bay 3 (100)



Plate 46: South roof, brick partition and chimney (96)



Plate 48: South roof, Bay 3 (101)





Plate 49: South roof, Truss 3 (102)



Plate 50: South roof, Bay 4 (103)



Plate 51: South roof, Truss 4 (105)



Plate 52: South roof, Truss 4 (104)



Plate 53: South roof, Bay 5 (106)



Plate 54: South roof, Bay 5 (107)





Plate 55: South roof, Bay 5 (109)



Plate 57: South roof, Bay 6 (111)



Plate 59: South roof, Bay 6 (113)



Plate 56: South roof, Truss 5 (110)



Plate 58: South roof, Bay 6 (112)



Plate 60: South roof, Bay 6 (114)





Plate 62: South roof, main chimney (116)



Plate 64: South roof, Bay 7 scarf joint (120)



Plate 61: South roof, main chimney (115)



Plate 63: South roof, main chimney (117)



Plate 65: South roof, Bay 7 (121)



Plate 66: South roof, Bay 7 (127)





Plate 67: South roof, Bay 7 (124)



Plate 68: South roof, Bay 7 (118)



Plate 69: South roof, Bay 7 (119)



Plate 70: South roof, Bay 7 carpenter's marks (125)



Plate 71: South roof, Bay 7 (122)



Plate 72: South roof, Bay 7 (123)





Plate 74: North roof, oblique (50)



Plate 76: North roof, Bay 1 (52)



Plate 78: North roof, Bay 2 (54)



Plate 73: North roof, oblique (49)



Plate 75: North roof, Bay 1 (51)



Plate 77: North roof, Bay 2 (53)





Plate 79: North roof, Truss 3 (57)



Plate 81: North roof, Bay 5 (61)



Plate 80: North roof, Truss 4 (58)



Plate 82: North roof, Bay 5 (62)



Plate 83: North roof, Bay 5 carpenter's marks (64)



Plate 84: North roof, Bay 5 (65)





Plate 85: North roof, Bay 5 (66)



Plate 86: North roof, Truss 5 (67)



Plate 87: North roof, Truss 5 (68)



Plate 88: North roof, Bay 5 (69)



Plate 89: North roof, Bay 6 (70)



Plate 90: North roof, Bay 6 (71)





Plate 91: North roof, Bay 6 (72)



Plate 92: North roof, Bay 6 (73)



Plate 93: North roof, Bay 7 (78)



Plate 94: North roof, Bay 6 (74)



Plate 95: North roof, Bay 6 (75)



Plate 96: North roof, Bay 7 carpenter's marks (77)





Plate 97: North roof, Bay 7 (82)



Plate 98: North roof, Bay 7 (80)



Plate 99: North roof, Bay 7 (81)



Plate 100: North roof, Bay 7 (83)



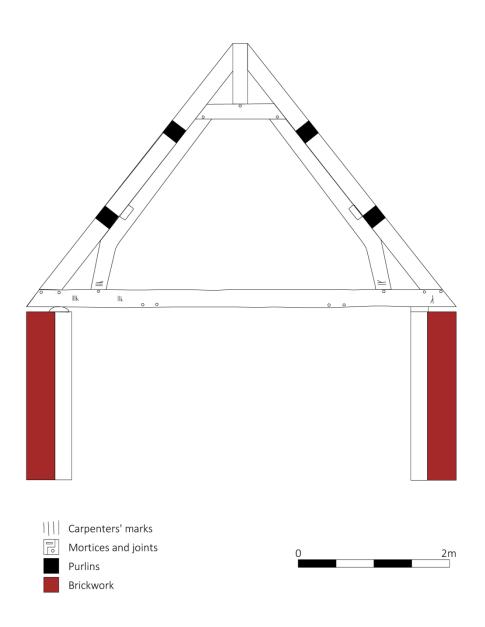


Figure 4: Section of Truss 4, west side (scale 1:50)

#### KDK Archaeology Ltd

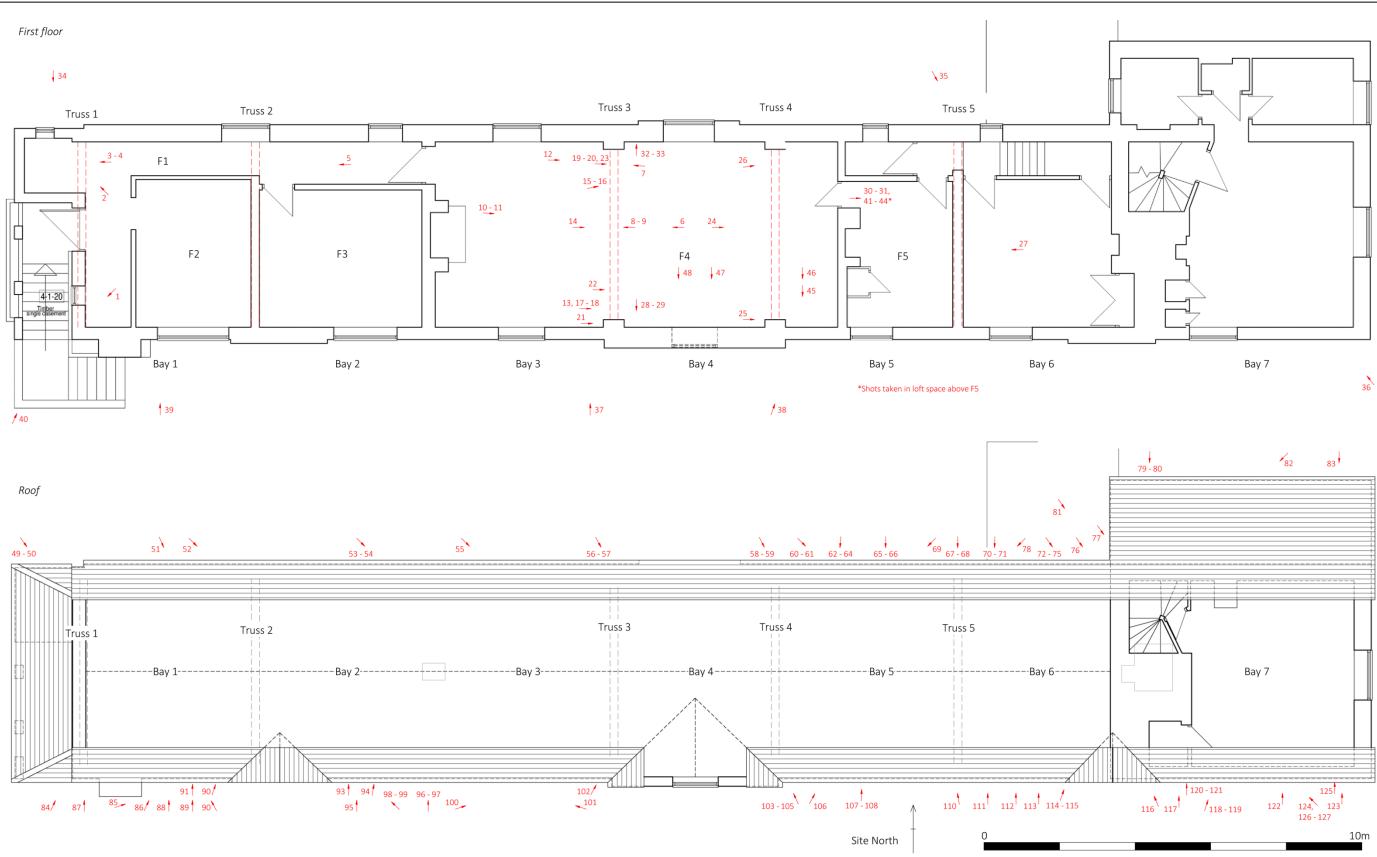
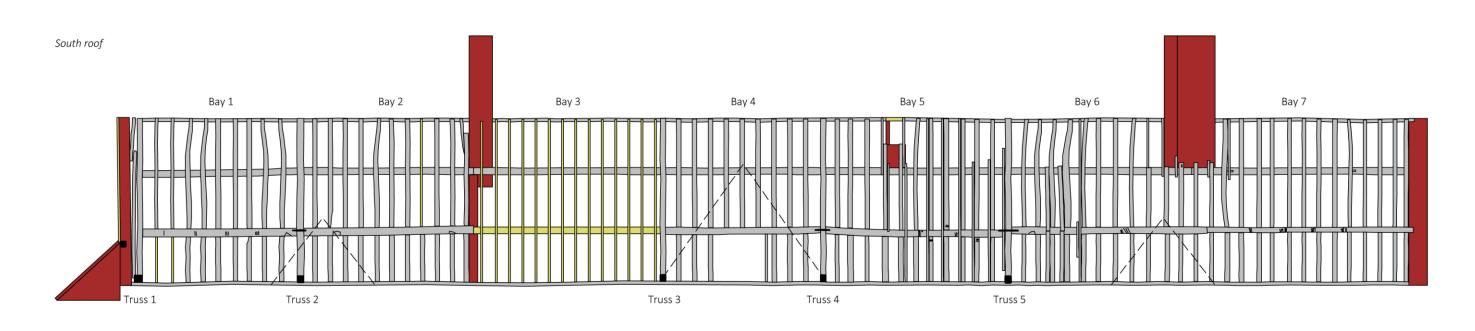


Figure 5: Photo plans (scale 1:100) N.B. shot numbers correspond to Photograph List in Appendix 1





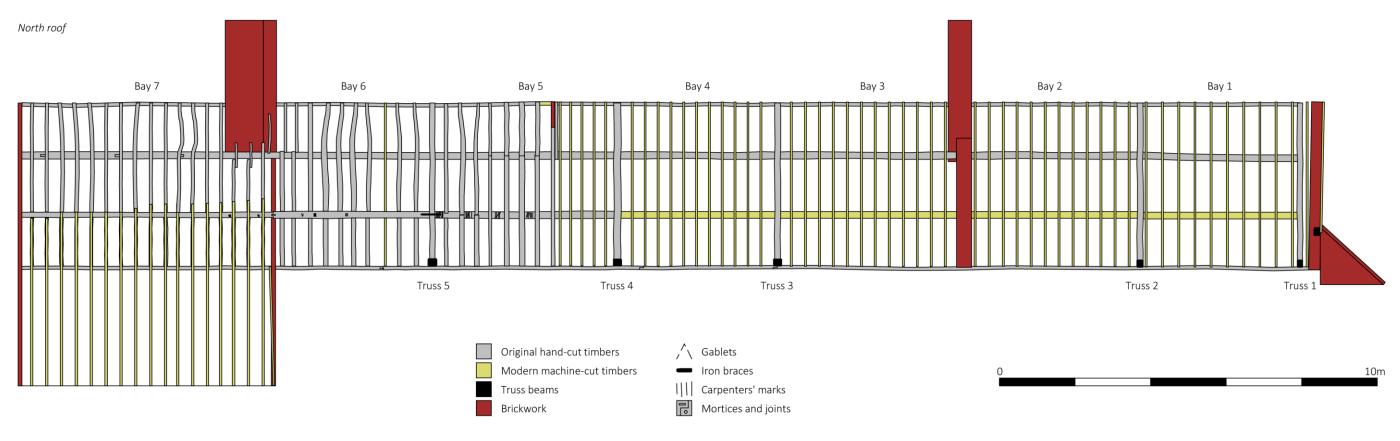


Figure 1: External roof structure plan (scale 1:100)





#### 5 Conclusions

The work to the Hayloft at Chiltern Way Academy revealed much of the original roof structure, in particular the timber rafters previously obscured by roof tiles. The trusses were generally already visible from the interior of the first floor or loft, although Trusses 1 and 2 were mostly obscured. Truss 1 has a king post, the base of which can be seen from the first floor. Removal of the roof tiles did not reveal much more of these two trusses, save for their principal rafters and collar beams, which were visible from the scaffolding between the gaps in the common rafters. Trusses 3 and 4 have cranked inner principals and a short king post above the collar beam. The trusses show evidence of re-use, with the addition of later machine cut timbers that accommodate the double butt purlins. A clear sequence of carpenter's assembly marks in the form of Roman numerals are present on both trusses. Trusses with cranked inner principals are found in Buckinghamshire, Berkshire and Oxfordshire, mostly in agricultural buildings (Clark 2004; 32). Although the largest number of datable examples are mid-late 18<sup>th</sup> century, the earliest known roof of this type, which is at Mongewell Farm, Crowmarsh Gifford, dates from 1651 and the latest, at Huntercombe End, dates from 1882 (*ibid*: 35).

Dating this particular roof is problematic without recourse to scientific dating methods. A great many of the original rafters and purlins survive and appear to date to the 17<sup>th</sup> or even late 16<sup>th</sup> centuries. The roof is double purlin and has upper and lower rafters. The upper rafters, being longer, overlie the upper purlins and abut the lower purlins. To the south side are three projecting gablets, added in the 18<sup>th</sup> century. A number of interesting details are present, including iron strap braces attached to some of the truss rafters, which brace against the purlins. There are also several scarf joints of simple design. The carpenter's marks are notable but not always consistent across the whole structure. They are mainly visible on the lower purlin and adjacent rafters, but are not necessarily present where timbers have been replaced. As on the trusses, they take the form of Roman numerals. The numerical sequence is clear in the examples on the south side of Bay 1, but elsewhere the logic of the numbering system is less evident, the likely purpose was to match the rafters to their appropriate positions on the purlins during assembly. Discrepancies between the appearances of the carpenter's marks of construction or renovation.

Large portions of the rafters have been entirely replaced with modern machine cut timbers, particularly on the north side, where Bays 1 - 4 have been almost entirely reworked. Some earlier stages of repair are evident, such as the addition of supportive hand cut rafters in the south side of Bay 5.

The Hayloft was known as the Stable Block, originally serving as stables to the Manor House, and was constructed in the early 18<sup>th</sup> century. It is evident from inspection of the roof timbers that they have been repurposed in many instances. This is particularly clear in the two phases of roof construction seen in the inner and outer principal rafters. Re-use of earlier building fabric is not unusual given the general scarcity and high demand of quality timber in the 18<sup>th</sup> century. Whether the timbers came from an earlier building on the site is not known. The Manor was converted to use as a school in 1961 and it was no doubt at this time when the large-scale renovation of the roof occurred, accounting for the quantity of modern replacement timber.



#### 6 Acknowledgements

KDK Archaeology is grateful to Rory Cullen of Cullen Conservation for commissioning this report on behalf of Chiltern Way Academy. Thanks are also due to Laura Levitt of Buckinghamshire County Council Archaeological Service (BCAS) for monitoring the project and Julian Munby for sharing his expertise on cranked inner principals.

The fieldwork was carried out by Karin Kaye MA MCIfA, Derek Watson PhD and Chris Martin-Taylor BSc. The report was written by Karin Kaye and Chris Martin-Taylor, and edited by Ellen Shlasko PhD.



#### 7 Archive

- 7.1 The project archive will comprise:
  - Written Scheme of Investigation
  - Report
  - Historical & Survey notes
  - Architect's survey drawings
  - List of photographs
  - B/W prints
  - B/W negatives
  - CDROM with copies of all digital files.
- 7.2 The archive will be deposited with the Centre for Buckinghamshire Studies.



#### 8 References

#### Standards & Specifications

- CIFA 2014 Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology Reading: Chartered Institute for Archaeologists
- CIfA 2019 Code of Conduct Reading: Chartered Institute for Archaeologists
- CIFA 2014 Standards & Guidance Documents (Desk-Based Assessments, Investigation and Recording of Standing Buildings). Reading: Chartered Institute for Archaeologists
- Dodd L. 2019 Written Scheme of Investigation for an Historic Building Watching Brief: The Hayloft, Chiltern Way Academy, Church Lane, Wendover, Buckinghamshire. KDK library reference: 445/WCL/1.1
- HE 2015 The Management of Research Projects in the Historic Environment: the MoRPHE Project Managers' Guide. London: Historic England
- HE 2016 Understanding Historic Buildings: A Guide to Good Recording Practice. London: Historic England
- SMA 1995 Towards an Accessible Archaeological Archive the Transfer of Archaeological Archives to Museums: Guidelines for Use in England, Northern Ireland, Scotland and Wales. London: Society for Museum Archaeologists
- Walker K 1990 Guidelines for the Preparation of Excavation Archives for Long-Term Storage. London: United Kingdom Institute for Conservation, Archaeology Section

#### Secondary Sources

- Aylesbury Vale District Council (AVDC) 2011 *Wendover Conservation Area*. Aylesbury Vale District Council
- British Geological Society: http://mapapps.bgs.ac.uk/geologyofbritain/home.html
- Buckinghamshire County Council (BCC) 2009 *Wendover Buckingham Historic Towns* Assessment Report. Buckinghamshire County Council
- Centre for Buckinghamshire Studies (CBS) 1620 Dame Mary Wolley's Estate Map. Ref MAR48
- Clark, D. 2004 Cranked Inner Principals in Vernacular Architecture Volume 35, 32-39
- Cullen R 2018 Proposed Re-Roofing Works to the Stable Block (Hayloft), Chiltern Way Academy, Church Lane, Wendover HP22 6NL: Heritage Statement. Cullen Conservation
- Mills A. D. 1991 A Dictionary of English Place-names. Oxford University Press
- Semmelmann K. 2011 *Heritage Impact Assessment: Wendover House School, Wendover, Buckinghamshire* Archaeological Services and Consultancy (Ref. ASC: 1423/WHS/1r)
- Victoria County History 1912 *Wendover*. In 'An Inventory of the Historical Monuments in Buckinghamshire, Volume 1, South'. Online Version: http://www.british-history.ac.uk/rchme/bucks/vol1/pp304-313 (Accessed: 26<sup>th</sup> November 2019)
- Williams A. & Martin G. H. 2002 Domesday Book: a complete translation. London: Penguin



### Appendix 1: Photograph List

Shot	RAW	JPEG	View	Subject		
1	х	х	SW	Truss 1		
2	х	х	NW	Truss 1		
3	х	х	W	Truss 1 mortice		
4	х	х	W	Truss 1 mortice		
5	х	х	W	Truss 2		
6	х	х	W	Truss 3		
7	х	х	W	Truss 3		
8	х	х	W	Truss 3		
9	х	х	W	Truss 3		
10	х	х	E	Truss 3		
11	х	х	E	Truss 3		
12	х	х	E	Truss 3		
13	х	х	SE	Truss 3		
14	х	х	E	Truss 3		
15	х	х	E	Truss 3		
16	х	х	E	Truss 3		
17	х	х	E	Truss 3		
18	х	х	E	Truss 3		
19	х	х	E	Truss 3		
20	х	х	E	Truss 3		
21	х	х	E	Truss 3		
22	х	х	E	Truss 3		
23	х	х	E	Truss 3		
24	х	х	E	Truss 4		
25	х	х	E	Truss 4		
26	х	х	E	Truss 4		
27	х	х	W	Truss 5 location in F6		
28	х	х	S	Exposed rafters adjacent to Truss 3		
29	х	Х	S	Exposed rafters adjacent to Truss 3		
30	х	Х	E	Truss 5		
31	х	Х	E	Truss 5		
32	Х	Х	N	Exposed rafters adjacent to Truss 3		
33	х	Х	N	Exposed rafters adjacent to Truss 3		
34	х	Х	S	Exterior		
35	х	Х	SE	Exterior		
36	х	х	NW	Exterior		
37	х	х	N	Exterior		
38	X	х	NE	Exterior		
39	X	х	N	Exterior		
40	X	Х	NE	Exterior		
41	X	X	E	Truss 5		
42	X	X	E	Truss 5		
43	X	X	E	Truss 5		
44	X	X	E	Roof space above F5		
45	X	X	S	Rafters exposed in F4 Rafters exposed in F4		
46	X	X	S			
47	X	X	S	Rafters exposed in F4		
48	Х	Х	S	Rafters exposed in F4		



Shot	RAW	JPEG	View	Subject
49	х	х	SE	North roof: oblique
50	х	х	SE	North roof: oblique
51	х	х	SE	North roof: Bay 1
52	х	х	SE	North roof: Bay 1
53	х	х	SE	North roof: Bay 2
54	х	х	SE	North roof: Bay 2
55	х	х	SE	North roof: Bay 3
56	х	х	SE	North roof: Truss 3
57	х	х	SE	North roof: Truss 3
58	х	х	SE	North roof: Truss 4
59	х	х	SE	North roof: Truss 4
60	х	х	SE	North roof: Bay 5
61	х	х	SE	North roof: Bay 5
62	х	х	S	North roof: Bay 5
63	х	х	S	North roof: Bay 5
64	х	х	S	North roof: Bay 5
65	х	х	S	North roof: Bay 5
66	х	х	S	North roof: Bay 5
67	х	х	S	North roof: Truss 5
68	х	х	S	North roof: Truss 5
69	х	х	SW	North roof: Bay 5
70	х	х	S	North roof: Bay 6
71	х	х	S	North roof: Bay 6
72	х	х	S	North roof: Bay 6
73	х	х	SE	North roof: Bay 6
74	х	х	SE	North roof: Bay 6
75	х	х	SE	North roof: Bay 6
76	х	х	SE	North roof: Bay 7
77	х	х	SE	North roof: Bay 7
78	х	х	SE	North roof: Bay 7
79	х	х	S	North roof: Bay 7
80	х	х	S	North roof: Bay 7
81	х	х	SE	North roof: Bay 7
82	х	х	S	North roof: Bay 7
83	х	х	S	North roof: Bay 7
84	х	х	Ν	South roof: west gable and Truss 1
85	х	х	NE	South roof: oblique
86	х	х	NE	South roof: Bay 1
87	х	х	Ν	South roof: Bay 1
88	х	х	Ν	South roof: Bay 1
89	х	х	Ν	South roof: Bay 1
90	х	х	NW	South roof: Bay 1
91	х	х	N	South roof: Bay 1
92	x	х	Ν	South roof: Truss 2
93	x	х	Ν	South roof: Bay 2
94	х	х	Ν	South roof: Bay 2
95	x	х	Ν	South roof: Bay 2
96	х	х	Ν	South roof: brick partition and chimney
97	x	х	Ν	South roof: brick partition and chimney
98	х	х	NW	South roof: Bay 2
99	х	х	NW	South roof: Bay 2



Shot	RAW	JPEG	View	Subject	
100	х	х	NE	South roof: Bay 3	
101	х	х	NW	outh roof: Bay 3	
102	х	х	NE	South roof: Truss 3	
103	х	х	NW	South roof: Bay 4	
104	х	х	Ν	South roof: Truss 4	
105	х	х	Ν	South roof: Truss 4	
106	х	х	NE	South roof: Bay 5	
107	х	х	Ν	South roof: Bay 5	
108	х	х	Ν	South roof: Bay 5	
109	х	х	NW	South roof: Bay 5	
110	х	х	Ν	South roof: Truss 5	
111	х	х	Ν	South roof: Bay 6	
112	х	х	Ν	South roof: Bay 6	
113	х	х	Ν	South roof: Bay 6	
114	х	х	Ν	South roof: Bay 6	
115	х	х	NE	South roof: main chimney	
116	х	х	NW	South roof: main chimney	
117	х	х	Ν	South roof: main chimney	
118	х	х	NE	South roof: Bay 7	
119	х	х	NE	South roof: Bay 7	
120	х	х	Ν	South roof: Bay 7 scarf joint	
121	х	х	Ν	South roof: Bay 7	
122	х	х	Ν	South roof: Bay 7	
123	х	х	Ν	South roof: Bay 7	
124	х	х	NW	South roof: Bay 7	
125	х	х	Ν	South roof: Bay 7	
126	х	х	NW	South roof: Bay 7	
127	х	х	NW	South roof: Bay 7	



### Appendix 1: OASIS and Site Data

	PROJECT	DE	TAILS				
Project Name & Address	Historic Building Watching Brief: The Hayloft, Chiltern Way Academ Church Lane, Wendover, Buckinghamshire	ιy <i>,</i>	Project Site Code		445/WCL		
OASIS reference	kdkarcha1-344748		Event/Accession no		ТВС		
OS reference	SP 87198 07290		Study area size		227.78m²		
Project Type	Historic Building Watching Brief		Height (mAOD)		135m		
From May to October 2019 KDK Archaeology Ltd carried out a Historic Building Watching Brief The Hayloft, Chiltern Way Academy, Church Lane, Wendover in order to fulfil Condition 5 Listed Building Consent for the proposed re-roofing of the structure, as required under th terms of the National Planning Policy Framework (NPPF). The Hayloft was previously known a the Stable Block and served as the stables for Wendover Manor House. It was built in the earl mid 18th century and was converted to a school in 1961. It is primarily timber framed and faced in brickwork. The work necessitated the removal of clay roof tiles and the exposure of th timber roof structure. Many of the original timbers remain, including the trusses, some purlir and a great number of the rafters. These bore significant details such as carpenter's marks ar iron strap braces. Many of the timbers likely date to at least the 17th century and we 							
Previous work	None		Site status		Grade II Listed		
Planning proposal	Re-roofing of the Hayloft		Current land use		School		
Local Planning Authority	Bucks CC Vale of Aylesbury Area		Planning application ref.		18/03812/ALB		
Monument type	Former stable block		Monument period		Post-medieval		
Significant finds	None		Future work		No		
	PROJECT (	CREA	ATORS				
Organisation	KDK Archaeology Ltd			T			
Project Brief originator	N/A	Pro	oject Design originator	KDK	Archaeology Ltd		
Project Manager	Karin Kaye MA MCIfA	Di	irector/Supervisor Chris Martin-Ta		s Martin-Taylor BSc		
Sponsor/funding body	Chiltern Way Academy						
	PROJEC	TD/	ATE	T			
Start date	20.05.2019	En	End date 25.1		10.2019		
	PROJECT	ARC					
	Location	NI/	Content (eg. pottery, a	nimal	bone, files/sheets)		
Physical	The Centre for Buckinghamshire		N/A				
Paper WSI, photographs, report							
Digital			SI, architects drawings, pho		· ·		
BIBLIOGRA	APHY (Journal/monograph, published						
Title	Historic Building Watching Brief: T Buckinghamshire	ne ŀ	iayiott, Chiltern Way Acade	emy, C	nurch Lane, Wendover,		
Serial title & volume	Serial title & volume 445/WCL/2						
Author(s)	Karin Kaye MA MCIfA and Chris M	artir	n-Taylor BSc				
Page nos	42	Date 15.07.2020					