LAND AT KEERBRIDGE, CARNFORTH, LANCASTER, LANCASHIRE

Archaeological Desk-Based Assessment and Heritage Assessment



Client: L&W Wilson (Higham) Ltd NGR 349878 471298 © Greenlane Archaeology Ltd May 2022



The Site				
Site Name Land at Keerbridge, Carnforth, Lancaster				
County Lancashire				
NGR 349878 471298				

Client				
Client Name L&W Wilson (Higham) Ltd				
Client's architect	Tony Hills, Damson Design			

Planning			
Pre-planning?	Yes		
Planning Application No.	-		
Plans (e.g. conversion, extension, demolition)	Development for housing		
Condition number	-		
Local Planning Authority	Lancaster City Council		
Planning Archaeologist	Archaeology Service, Lancashire County Council		

Archiving				
Relevant Record Office(s)/Archive Centre(s) Preston				
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Date of site visit	29/04/2022 and 12/05/2022		

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Non-Technical Summary

Prior to submission of a planning application for the redevelopment of land at Keerbridge, Carnforth, Lancaster, Lancashire, Greenlane Archaeology was commissioned to carry out a desk-based assessment and heritage assessment of the site. A site visit of the land was also carried out on the 29th of April 2022 and the interior of Keer Bridge House and associated outbuildings were visited on the 12th May 2022.

The site is to the north of Carnforth and south of Warton, on the north side of the River Keer. Early maps show the site originally comprised parts of several fields, with the buildings making up Keer Bridge House on the west side; documentary sources show that this was used as a farmhouse by the middle of the 19th century and became a sawmill. The historic environment records 15 sites of archaeological interest within a study area of 250m from the site boundary, most of which are post medieval and relate to the development of Carnforth in the late 19th century, but including two mills of medieval origin, one of which was within the site boundary and possibly originally related to Keer Bridge House.

The site is located within an area containing archaeological remains spanning from the end of the last lce Age onwards, with settlement recorded at Warton and Carnforth from at least the end of the 11th century. It is dominated by the rapid growth of Carnforth following the coming of the railway and creation of a junction and the development of an iron works in 1864. This led to the building of a substantial settlement, originally known as 'Dudley' due to the numerous workers from the Midlands who arrived there, but latterly known as Millhead, immediately to the north of the site.

The site visit revealed that the majority of the area had been substantially disturbed by modern activity associated with recent industrial uses. Keer Bridge House is now derelict but in reasonable condition. Externally it retains much of its original form and fabric, but internally it has been substantially modified.

An assessment of the significance of the various sites within the proposed development area concludes that the most significant is Keer Bridge House, which is Grade II Listed and so statutorily protected. Despite having been substantially altered internally it is in reasonable condition and could be returned to domestic use, as could the associated outbuildings. Elsewhere the most archaeologically interesting site is the former mill, the exact location of which is not certain, although it perhaps originally formed part of the complex now associated with Keer Bridge House. Further investigation in the form of archaeological evaluation and building recording would be most appropriate.

Acknowledgements

Greenlane Archaeology would like to thank Damson Design for commissioning the project, in particular Tony Hills. Special thanks are due to Byron Wilson and colleagues at Wilson and Co Properties for their assistance with the site visit. Further thanks are due to Joanne Smith, Planning Officer at Lancashire County Council, for providing the Historic Environment Record information, and the staff at the Lancashire Record Office in Preston for providing access to the relevant archive material. Land at Keerbridge, Carnforth, Lancaster, Lancashire: Archaeological Desk-Based Assessment and Heritage 5 Assessment

1. Introduction

- 1.1 Circumstances of the Project
- 1.1.1 The circumstances of the project are set out in the tables on the inside cover of this report.
- 1.2 Location, Geology, and Topography

1.2.1 The site occupies approximately 2.44ha to the north of Carnforth, north of the River Keer, between c10m and 20m above sea level (Figure 1; Ordnance Survey 2011). The site is c1km inland from the east coast of Morecambe Bay, in an area characterised by relatively flat lowlands with an undulating landscape further inland created largely by drumlin features (Countryside Commission 1998, 82). The underlying geology of the area comprises carboniferous limestone (Moseley 1978, plate 1).

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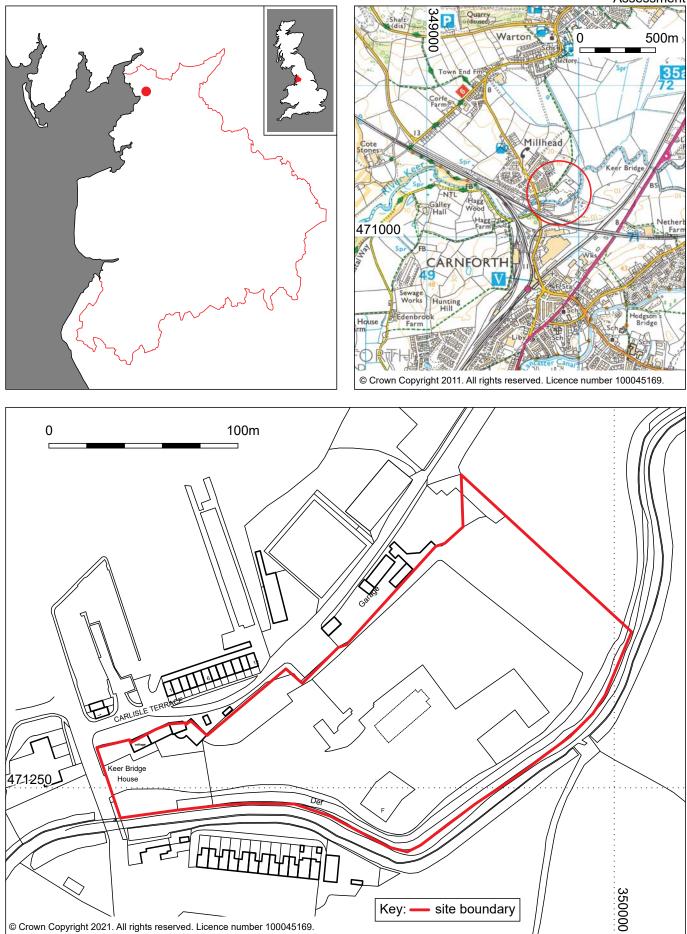


Figure 1: Site location

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2. Methodology

2.1 Desk-Based Assessment

2.1.1 A desk-based assessment was carried out in accordance with the guidelines of the Chartered Institute for Archaeologists (CIfA 2014a). This principally comprised examination of early maps of the site and published secondary sources, and was also used in order form the basis of better understanding the Listed Building as part of the heritage assessment. A number of sources of information were used during the compilation of the desk-based assessment:

- **Record Office/Archive Centre**: the majority of original and secondary sources relating to the site are deposited in the relevant Record Office(s) or Archive Centre(s), as specified in the cover sheet of this report. Of principal importance are early maps of the site. These were examined in order to establish the development of the site, date of any structures present within it, and details of land use, in order to set the site in its historical, archaeological, and regional context. In addition, any details of the site's owners and occupiers were acquired where available. Many of the most useful of these sources, or their equivalent, are now available online;
- **HER**: this is the primary source of information recording previously known archaeological discoveries. A study area of 250m from the boundary of the site was examined. For each site a grid reference, description, and related sources were obtained for inclusion in the gazetteer (see *Appendix 2*). In addition, details of previous archaeological work carried out within the study area was also obtained from the HER;
- **Online Resources:** where available relevant sources were also consulted online;
- **Greenlane Archaeology**: Greenlane Archaeology's office library includes maps, local histories, and unpublished primary and secondary sources. These were consulted where relevant, in order to provide information about the history and archaeology of the site and the general area.

2.2 Site Visit

2.2.1 A site visit, equivalent to an Historic England Level 1 survey (Historic England 2017), was carried out covering the proposed development area and other areas that might be affected. Particular attention was paid to the identification of features of historical or archaeological interest, but other relevant features were recorded such as later aspects of the site that may have impacted on the earlier remains or could constrain further investigation. Colour digital photographs showing the general arrangement of the site and any features of interest were taken.

2.2.2 This also specifically allowed an examination of the condition and setting of the Listed Building to be made as part of the heritage assessment.

2.3 Archive

2.3.1 The archive of the project will be deposited with the relevant Record Office or Archive Centre, as detailed on the cover sheet of this report, together with a copy of the report. The archive has been compiled according to the standards and guidelines of the CIfA guidelines (CIfA 2014b). In addition, details will be submitted to the Online AccesS to the Index of archaeological investigationS (OASIS) scheme. This is an internet-based project intended to improve the flow of information between contractors, local authority heritage managers and the general public. A copy of the report will be provided to the client and to the relevant Historic Environment Record, as detailed on the cover sheet of this report.

3. Results

3.1 Introduction

3.1.1 A total of 15 sites of archaeological interest are recorded within the study area in the Historic Environment Record (Figure 2; *Appendix 2*; summarised in Table 1 below). Sites included in the gazetteer that relate to periods of the study area's history are individually mentioned in the site history (see Section 4 below).

Site No.	Туре	Period	Site No.	Туре	Period
1	earthwork (bank; mound; ridge and furrow)	post- medieval/uncertain	9	boundary stone?	post-medieval?
2	quarry	post-medieval	10	mineral railway; sea defences	post-medieval
3	workers' housing	post-medieval	11	watermill (demolished)	medieval
4	chapel (primitive Methodist)	post-medieval	12	house	post-medieval
5	country house (demolished)	post-medieval	13	railway station	post-medieval
6	gate lodge (demolished)	post-medieval	14	signal box (demolished)	post-medieval
7	house and associated buildings	post-medieval	15	railway	post-medieval
8	water mill (demolished); corn mill (demolished)	medieval			

Table 1: Summary of sites of archaeological interest within the study area

3.2 Desk-Based Assessment

3.2.1 The results of the desk-based assessment have been used to produce two main elements. Firstly, all available maps of the area were compiled into a map regression, demonstrating how the site physically developed. The second purpose of the desk-based assessment is to produce a background history of the site. This is intended to cover all periods, in part to provide information that can be used to assess the potential of the site, but more importantly to present the documented details of any sites that are known.

3.2.2 Once this information has been compiled the significance of those sites of archaeological interest within the study area, their potential, and the degree to which they are likely to be affected is considered and based on this possible mitigation work is then suggested.

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Figure 2: Gazetteer site plan

3.3 Map Regression

3.3.1 *Introduction*: early maps of the area tend to be relatively lacking in detail, so the earliest useful maps therefore tend to date from the 19th century onwards. The exception in this case is Yates's map of 1786, which clearly shows a mill, labelled 'Warton Mill', that appears to be within the site boundary (**Site 8**).

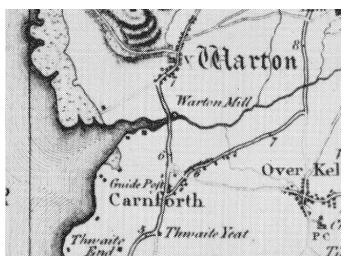


Plate 1: Extract from Yates's map of 1786 showing 'Warton Mill' (Site 8)

3.3.2 **Tithe map, 1846**: the site occupied parts of several fields to the north side of the River Keer in the township of Warton with Lindeth in the parish of Warton, numbered 488 to 495 along the southern edge of plot 496 (NA IR 30/18/325 1846; Plate 2). Details of these plots, recorded in the accompanying schedule (NA IR 29/18/325 1845), are summarised in Table 2. The majority of the land within the site area was owned by Edmund Clowes and occupied by John Lamb. Much of the area is marshland (the word 'Ings' is of Old Norse origin and refers to marshes) with buildings and an orchard to the west. A possible watercourse is indicated at the north edge.

Plot	Owner	Occupier	Description
488	Edmund Clowes	John Lamb	Building and Garden
489	Edmund Clowes	John Lamb	Marsh
490	Edmund Clowes	John Lamb	Orchard
491	Edmund Clowes	John Lamb	Marsh
492	Edmund Clowes	John Lamb	Dick Ings
493	Edmund Clowes	John Lamb	Little Dick Ings
494	Edmund Clowes	John Lamb	Jacks Ings
495	Edmund Clowes	John Lamb	Neck Cloth
496	Reverend Watson Incumbent of Wyersdale Chapel	William Jonson	Great Mill Head

Table 2: Extract from the tithe apportionment schedule for Warton with Lindeth

3.3.3 **Ordnance Survey, 1848**: the first edition 1:10,560 Ordnance Survey map, published in 1848 but surveyed in 1845, shows a similar field arrangement as the tithe map, with a further division shown along the north side of the river and a possible track to the buildings to the west (Plate 3; cf. Plate 2). The area is marked 'Lower Keer or Warton Bridge'. The possible watercourse to the north is not shown.

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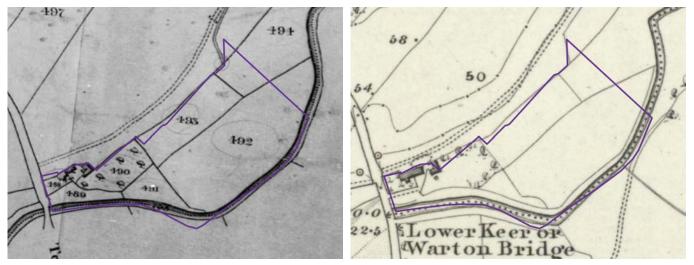


Plate 2 (left): Extract from the tithe map of 1846

Plate 3 (right): Extract from the Ordnance Survey map of 1848

3.3.4 **Ordnance Survey, 1891**: the 1891 edition of the Ordnance Survey map was revised in 1890. This edition, at a scale of 1:2,500, shows slightly more detail than the 1848 edition, including subdivisions within the buildings to the west, named Keer Bridge House (Plate 4; cf. Plate 3), and the watercourse to the north edge is shown again (cf. Plate 2). At that point, the wider area seems to be known as 'Dudley' [see gazetteer entry in *Appendix 2* for **Site 1** for a discussion of the place name, and also Section 4.5.1].

3.3.5 **Ordnance Survey, 1913**: this edition, revised in 1910, shows the site had become a saw mill, with additional buildings erected, and changes have been made to the fields it encompassed, including what could conceivably be an area of forestry to the north (Plate 5; cf. Plate 4). An extensive gravel pit is marked outside the area to the north. The 'Dudley' place-name has been dropped and replaced by 'Millhead'.

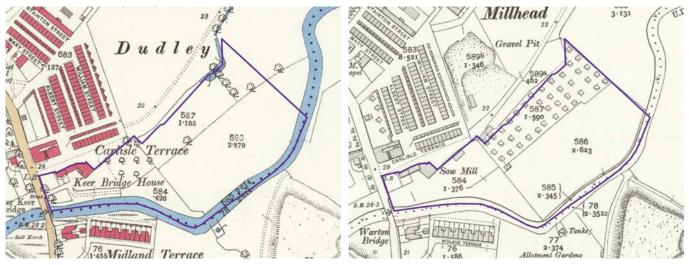


Plate 4 (left): Extract from the Ordnance Survey map of 1891

Plate 5 (right): Extract from the Ordnance Survey map of 1913

3.3.6 **Ordnance Survey, 1940**: the 1940 edition of the Ordnance Survey map contains revisions from 1938. Buildings at the saw mill have been extended and further forested areas are shown within the area, with a large circular track at the entrance to the site (Plate 4; cf. Plate 3).

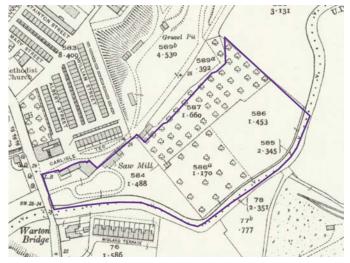


Plate 6: Extract from the Ordnance Survey map of 1940

3.4 Lidar

3.4.1 *Lidar*: no features of archaeological interest are apparent from lidar imagery of the site, which is freely available online (Plate 7).



Plate 7: Lidar imagery of the site

3.5 Site Visit

3.5.1 An initial site visit of the open ground was made, and this was followed by a visit specifically to look at the standing buildings on the west side. The open ground is dominated by a large area filling up most of the east side of the site (Plate 8) beyond metal security gates (Plate 9) and is made up of a number of concrete and tarmac areas of hard standing (Plate 10), although at the time of the site visit the north corner was filled by a large pile of spoil (Plate 11). These bases include an area with vehicle inspection pits in the south corner (including one raised ramp) and other areas that had the appearance of building footings (Plate 12 and Plate 13). The west end forms a tarmac entrance drive and parking associated with the buildings against the north boundary. These are all currently disused and boarded up and in a derelict condition, and comprise a house of two storeys on the west side (Plate 14 and Plate 15) with a former barn extending from the east side (Plate 16 and Plate 17), and a range of other industrial or service buildings to the east of this (Plate 18 to Plate 20). All are built in the local yellow gritstone and have grey slate roofs.

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Plate 8 (left): General view of the east side of the site, from the west Plate 9 (right): The gates at the west side of the site, viewed from the south-east



Plate 10 (left): Area of hard standing in the eastern part of the site, viewed from the south-west Plate 11 (right): Spoil in the north corner of the site, viewed from the south-west



Plate 12 (left): Ramp with inspection pit on the south side of the site, viewed from the north-west Plate 13 (right): Inspection pits on the south side of the site, viewed from the north-east

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Plate 14 (left): The house, viewed from the south Plate 15 (right): The house, viewed from the north



Plate 16 (left): Barn, viewed from the south-east Plate 17 (right): Barn, viewed from the north-west



Plate 18 (left): Outbuildings at the east end of the block of buildings, viewed from the south-west Plate 19 (right): Outbuildings at the east end of the block of buildings, viewed from the north-east

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Plate 20: Outbuilding at the east end of the block of buildings, viewed from the north-east

3.5.2 Internally the standing buildings comprise four distinct elements: the former house at the west end (Plate 21 to Plate 33), the attached former barn to the east of this (Plate 34 to Plate 38), a further extension to the east of that (Plate 39 to Plate 41), and another extension with a curved section on the south side, to the south (Plate 42 to Plate 44). Throughout the buildings had been entirely modernised with carpeted floors and modern plaster and painted walls and modern panel doors. In the house, on the ground floor, there are chimney breasts to the east and west but the openings have been blocked (Plate 24). The main staircase on the north side has a modern hand rail and balusters (Plate 22), and there is a bathroom to the north-west (Plate 26) and kitchen to the north-east (Plate 27).



Plate 21 (left): General view of the main ground floor room of the house, viewed from the south-east Plate 22 (right): The staircase on the north side of the main ground floor room of the house, viewed from the south-west 16 Land at Keerbridge, Carnforth, Lancaster, Lancashire: Archaeological Desk-Based Assessment and Heritage Assessment

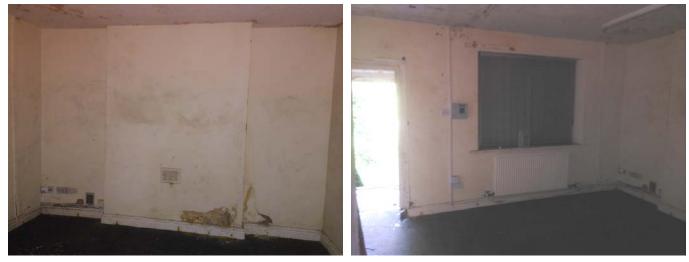


Plate 23 (left): The west side of the main ground floor room showing the chimney breast, viewed from the east

Plate 24 (right): The south side of the main ground floor room, viewed from the north



Plate 25 (left): South-east ground floor room of the house, viewed from the north-west Plate 26 (right): Bathroom on the north-west side of the ground floor of the house, viewed from the south

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Plate 27 (left): Kitchen on the north-east side of the ground floor of the house, viewed from the west

Plate 28 (right): Ground floor room beyond the kitchen, viewed from the north

3.5.3 At first floor level the space is divided into three rooms around a central landing and the top of the staircase (Plate 29). Again, these are all modernised and generally lacking in features of interest (Plate 30 to Plate 33). The former barn has been subdivided into four rooms, three along the north side coming off a wide corridor along the south side, again all very modernised and lacking any original fabric (Plate 34 to Plate 37). The roof, however, retains two original trusses in hand-finished timber and the original limewashed walls are exposed (Plate 38). The further extension to the east comprises just a toilet and kitchen/boiler room (Plate 39 and Plate 40), with a steel structure roof truss (Plate 40). The further extension to the south is also sub-divided and generally unremarkable (Plate 42 to Plate 44).



Plate 29 (left): The staircase on the north side of the house at first floor level, viewed from the south-east Plate 30 (right): East first floor room in the house, viewed from the south-west



Plate 31 (left): East first floor room in the house, viewed from the north-west Plate 32 (right): South-east first floor room in the house, viewed from the north-east

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Plate 33 (left): North-west first floor room in the house, viewed from the south-east Plate 34 (right): West end of the former barn, viewed from the south-east



Plate 35 (left): West end of the former barn, viewed from the north-west Plate 36 (right): View along the corridor on the south side of the former barn, from the west



Plate 37 (left): Western room off the corridor in the former barn, viewed from the south-west Plate 38 (right): Roof truss in the barn, viewed from the east



Plate 39 (left): Toilets in the extension at the east end of the former barn, viewed from the south-west Plate 40 (right): Kitchen/boiler room in the extension at the east end of the former barn, viewed from the south



Plate 41 (left): Roof truss over the extension to the east of the former barn, viewed from the south-east Plate 42 (right): Curved section in the extension to the south, viewed from the east



Plate 43 (left): General view of the southern extension, viewed from the north-west Plate 44 (right): Kitchen in the southern extension, viewed from the west

3.5.4 There are no constraints to further archaeological work on the site, although the presence of areas of concrete and tarmac hard standing, vehicle inspection pits and building foundations, and the likelihood of services relating to these also being present, means that there will have been considerable

disturbance to any below ground remains that might exist across the site. Given the that site most recently had a commercial use associated with waste disposal (see *Section 4.5.2*) it is also possible that there could be below-ground contamination that would impact on any subsequent archaeological work.

4. Site History

4.1 Background History

4.1.1 The background history to the site helps our understanding of the development and use of the site, where known, making use of the map evidence presented above where relevant. The background to the site is intended to place the results of the project in its local context and in order to do so a brief discussion of the earlier history of its wider environs is also necessary.

4.2 Prehistoric Period ($c11,000 \text{ BC} - 1^{\text{st}}$ century AD)

4.2.1 While there is limited evidence for human activity in the region in the period immediately following the last Ice Age, this is typically found in the southernmost part on the north side of Morecambe Bay. Excavations of a small number of cave sites have found the remains of animal species common at the time but now extinct in this country and artefacts of Late Upper Palaeolithic type (Young 2002). The earliest evidence of human occupation in the area was found in Kirkhead Cave, which has late Upper Palaeolithic (*c*11,000-8,000 BC) remains (Salisbury 1992, 3). Palaeolithic blades have also been found at Lindale Low Cave to the north-east of Kirkhead (*ibid*; Salisbury 1988) and human and animal bones were also recovered from Kents Bank Cave, of which one of the human bones was more recently dated to the end of the Late Upper Palaeolithic or beginning of the Mesolithic period (Smith *et al* 2013).

4.2.2 Evidence for activity in the Mesolithic period in the immediate vicinity of the study area is relatively limited, and the available published discussions regarding this in Lancashire tend to emphasise the larger concentrations of discoveries associated with wetland and upland areas and the coast and river valleys (Barrowclough 2008, 48-65; Middleton *et al* 1995, 202), which is a general pattern in the wider region (Hodgson and Brennand 2006, 26), and finds of this period are encountered across the wider Morecambe Bay area (Elsworth 1998). Discoveries of this date closer to the site have recently been made, including during excavations at Dalton Square on the east side of Lancaster, which revealed a number of microliths of this period (Bates *et al* 2011). Even more recently finds of Mesolithic date were found during archaeological work in advance of the construction of the 'Bay Gateway' to the south of the site on the edge of a former river channel (Bradley and Howard-Davis 2018), confirming the earlier suggestion that such material would be encountered in these sorts of locations.

4.2.3 In the following period, the Neolithic (c4,000 - 2,500 BC), large scale monuments such as burial mounds and stone circles begin to appear nationally, although this was seemingly quite a gradual process in the North West (Barrowclough 2008, 74-75). One of the most recognisable tool types of this period, the polished stone axe, is found in large numbers across the wider region, having been manufactured at Langdale in the central Lake District (Hodgson and Brennand 2006, 45). Evidence is generally fairly sparse for activity in this period in North Lancashire, with stray finds, albeit sometimes in quite large numbers, being the norm (Barrowclough 2008, 78-84). Neolithic pottery was discovered *in situ* in the centre of Lancaster on Church Street (White 2003, 26) and flints of this date were also found on the Bay Gateway project, demonstrating the continuity that existed on some sites (Bradley and Howard-Davis 2018).

4.2.4 During the Bronze Age ($c_{2,500} - 600$ BC) monuments, particularly those thought to be ceremonial in nature, become more common still. Burial remains, typically in the form of cremations in urns, are found across the region, and there is a particular concentration in Lancaster (Barrowclough 2008, 98-99; Iles 2009). Other finds such as bronze tools and weapons are also present in the region, but often as stray finds discovered accidentally in the 19th and early 20th century, often in wetland locations, or more recently through the use of metal detectors, with several regional groups defined (*op cit*, 150-176). By contrast settlements from this period are still very rare; although it is likely that many continued in use into the Iron Age, few have been studied in enough detail to ascertain this with any certainty, although some non-funerary remains of Bronze Age date were also found on the Bay Gateway project (Bradley and Howard-Davis 2018).

4.2.5 Sites and remains thought to belong to the Iron Age ($c600 \text{ BC} - 1^{\text{st}}$ century AD) are very rare. Settlements thought to be of this period are often revealed as crop marks in aerial photographs but they are typically undated and little understood. However, there is likely to have been a considerable overlap between the end of the Iron Age and the beginning of the Romano-British period, and it is evident that in this part of the country, initially at least, the Roman invasion had a minimal impact on the native population in rural areas (Philpott 2006, 73-74). One of the classic 'type sites' of the Iron Age, the hillfort, is relatively well represented in the wider area, although these too are complex structures that were probably used over a considerable period of time (Elsworth 2014). The closest example is the substantial structure on Warton Crag, which potentially has evidence for activity stretching back to the Neolithic (Grice and Martin 2018). There are several undated enclosures and earthworks in the local area, some of which may date from this period, including a substantial earthwork enclosure on Burrow Heights, which may in fact be a hillfort (Ratledge 2017a), and a large enclosure with internal hut circles, which was Iron Age in form but dated well into the Roman period, was excavated immediately south of Lancaster University at Barker House Farm (Philpott 2006, 74).

4.3 Romano-British to Early Medieval Period (1st century AD – 11th century AD)

4.3.1 During the Roman period a fort was established in Lancaster in the AD 70s, soon after the conquest of the area, on the hill later occupied by the medieval castle (Shotter and White 1990, 18). Outside of Lancaster itself the settlement pattern is less well understood as many rural sites probably continued to be used from the Iron Age. The route of a Roman road heading north from the fort at Lancaster towards that at Watercrook near Kendal is uncertain but it is thought to have been on the line of the current A6 (Ratledge 2017a; 2017b).

4.3.2 Evidence for activity in the early medieval period is generally quite limited. In the nearest substantial settlement, Lancaster, it is primarily found in a few objects such as pieces of carved stone cross and coin finds, which demonstrate that there was probably an early monastic establishment on Castle Hill from perhaps the 7th century (Edwards 1988) but in more rural areas physical evidence is much rarer. Place-name evidence shows that the area was occupied by a number of different groups with Old English names such as Warton showing an Anglian influence, and referring to a '*weard*' meaning guard, probably meaning the nearby hillfort, and Carnforth containing an element meaning ford (Ekwall 1922, 188). There are, however, earlier Brittonic elements found in local place names and later Norse ones, including a possible reference to a 'thing mound' or meeting place near Bolton-le-Sands (Elsworth 2013). The largest nearby settlement, Warton, is recorded in the Domesday survey of 1086 and so clearly existed in the early medieval period (Farrer and Brownbill 1914, 161), as its place-name indicates. Carnforth was also recorded in the Domesday survey as part the holdings of Earl Tostig and later granted to the de Lancasters of Kendal (*op cit*, 166).

4.4 Medieval Period (11th century AD – 16th century AD)

4.4.1 The site is located within the parish of Warton and township of Warton with Lindeth. Prior to the Conquest it was one of twelve manors held by Torfin as part of his lordship of Austwick (Farrer and Brownbill 1914, 161). It subsequently became part of the estates held by the de Lancasters of Kendal, who probably had a manor house, perhaps fortified, at Mourholme near Warton, which was probably destroyed following the rebellion of Gilbert fitz Reinfred in 1216 (*op cit*, 162). The manor was frequently referred to as 'Mourholme' and passed through various hands, including at one point being promised to Edward Balliol, the fugitive king of Scotland (*op cit*, 162). As already mentioned, the place-name evidence clearly shows the existence of the two principal settlements nearest to the site, Warton and Carnforth, in the medieval period (Ekwall 1922, 188). Of these Warton was a relatively substantial village with a market and borough charter (Booth 1976, 6-7) and an obvious strip plan typical of burgage plots, with the church of St Oswald and the remains of the 'Old Rectory' being the most obvious surviving evidence of the medieval period (Farrer and Brownbill 1914, 153-157). Carnforth was evidently a smaller settlement (*op cit*, 166), and did not develop to any great size until the post-medieval period.

4.4.2 Examples of sites of medieval date within the study area include two water mills (Sites 8 and 11).

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4.5 Post-medieval Period (16th century AD – present)

4.5.1 The area remained relatively rural well into the post-medieval period. The most significant change was the arrival of the railway, beginning with the Lancaster to Carlisle branch initiated in 1839, eventually becoming the West Coast Main Line to Scotland (Bairstow 1995, 8). The creation of a station at an important railway junction ultimately transformed the area around Carnforth and led to its development into an industrial suburb of Lancaster, particularly after the establishment of an iron works in 1864 (Farrer and Brownbill 1914, 165). While the site is some distance outside of the centre of Carnforth – between it and the ancient village of Warton to the north, it became directly influenced by the creation of the iron works with the construction of a vast area of workers' housing at 'Millhead' immediately to the north (**Site 3**). This was originally known as 'Dudley' because of the number of workers that came from the area around Dudley in the Midlands (Chatterley 1982).

4.5.2 The census information (see *Appendix 3*) shows that Keer Bridge House (**Site 7**) was the home of the Stainton family for at least part of the 1860s and 1870s, headed by Robert Stainton, a yeoman farmer, further demonstrating the essentially rural nature of the area until this time. The census then shows that from around 1891 to 1911 it was home to the Wilson family, whose members' occupations included at various times joiner, builder, carpenter, and timber merchant. This corresponds with the map regression, which shows that the site was a saw mill between at least 1890 and 1938 (see *Section 3.3*). Most recently the site was used by Thomas Graveson Ltd (Tony Hills pers comm), a waste disposal company originally established in 1893 as a timber haulier, who moved into waste disposal in 1951 and were on the site at Warton form at least 1971 (Commercial Motor Archive 2022). It is likely that they took over the site when it was still a saw mill as there is a reference to them being based at Warton in 1912 (LRO DDHD/CR/17/7 1912). It has also been stated that the site was used in connection with the railway and former ironworks in Carnforth (Lancaster City Council 2018, 157), but there is no specific evidence for this.

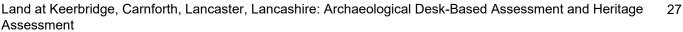
4.5.3 Other sites of post-medieval date recorded in the HER within the study area include: a quarry (Site 2), a chapel (Site 4), a country house (Site 5), a gate lodge (Site 6), a possible boundary stone (Site 9), a mineral railway (Site 10), another house (Site 12), and the railway station (Site 13), railway (Site 15) and a demolished signal box (Site 14). All of these further demonstrate the increasingly industrial nature of the area during this period.

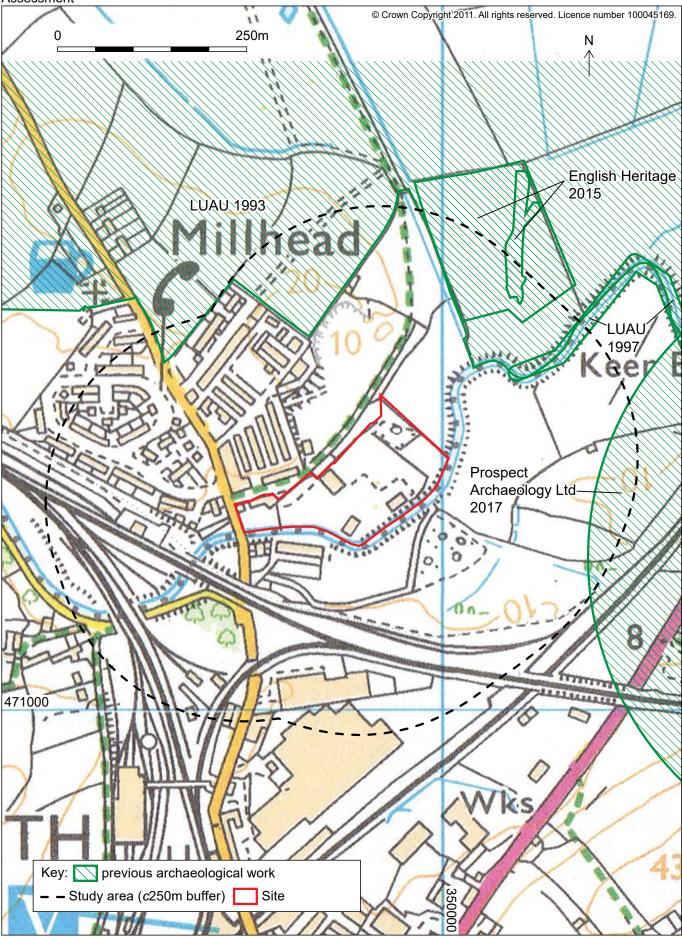
4.6 Previous Archaeological Work

4.6.1 Four previous pieces of archaeological work are recorded in the HER within the study area (Figure 3), comprising:

- a rapid identification survey of a number of the archaeological sites within the Arnside/Silverdale Area of Outstanding Natural Beauty by the Lancaster University Archaeological Unit in January and February 1993 (LUAU 1993);
- a survey of the River Keer between SD 505715 and SD 529719 by the Lancaster University Archaeological Unit (LUAU 1997). No archaeological features were discovered within 10m of the river between the specified coordinates; however, it was noted that human burials have been uncovered near the western end of the area, and may be associated with the Roman road route that became the modern A6. Despite this, and despite concentrations of prehistoric discoveries along river valleys, the report recommended no further archaeological action during any works affecting the banks of the River Keer, along the stretch studied;
- the National Archaeological Identification Survey: Upland Pilot project, small parts of the area of which were within north Lancashire (English Heritage 2015). The project comprised interpretation and mapping of air photographs and lidar, and later targeted analytical field survey, geophysical survey, excavation, palaeoenvironmental study and scientific dating under the auspices of English Heritage;

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 - a heritage assessment, carried out by Prospect Archaeology Ltd, ahead of proposed residential development of land to the east of Scotland Road, Carnforth (Prospect Archaeology Ltd 2017). This identified a number of undesignated heritage assets, including post-medieval quarrying sites, mileposts, domestic buildings, the site of a limekiln, two watermills, medieval/post-medieval agricultural activity and field systems, and, according to the summary in the HER, 'references to levelled mounds in documentary sources raises the possibility of prehistoric activity'.





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Figure 3: Previous archaeological work

5. Discussion

5.1 Introduction

5.1.1 The discussion of the results of the desk-based assessment and site visit is intended to determine the archaeological significance and potential of any known remains (above or below ground) and the potential for any as yet unidentified remains being present. The system used to judge the significance of the remains identified within the development area, or those thought to have the potential to be present within the development area, is based on the criteria used to define Scheduled Monuments (DCMS 2013, annex 4; *Appendix 1*). Of the 15 sites identified within the study area, **Site 7** and **8** lie inside the site area and are therefore likely to be affected by subsequent groundworks. In addition, **Site 9** is very close to the western boundary of the site area. The site is also situated within a wider area of known archaeological interest, so there is clearly potential for further remains of archaeological interest to be discovered, which are otherwise unknown at present.

5.2 Significance

5.2.1 Keer Bridge House (**Site 7**), which is situated inside the site boundary, is a Grade II Listed Building (see *Appendix 3*) and as such is statutorily protected and deemed to be of local significance. The documentary evidence shows that it was used as a farmhouse by the middle of the 19th century before later being used as a joiner's workshop and then becoming a saw mill. It is possible, given its evident proximity, that it originally formed a house associated with Warton Mill (**Site 8**), although no documentary evidence was revealed that would confirm this. The site visit revealed that externally it remains in reasonably good and original condition, with a range of attached outbuildings showing the manner in which it has been enlarged and used, with the barn representing its time as a farm and the other additions forming part of the later sawmill. Internally, however, it been substantially modernised and very little original fabric remains, with the notable exception of the roof structure in the barn.

5.2.2 The level of significance of the other known features of sites archaeological interest within or adjacent to the proposed development area has been assessed, according to the criteria used for Scheduled Monuments, as high, medium, or low. An average of these has been used to produce an overall level of significance for each site (see Table 3 below: H=high, M=medium, L=low). As can be seen in Table 3, these features are considered to be of medium or low significance.

Site	8	9
Period	М	L
Rarity	М	L
Documentation	М	L
Group value	М	L
Survival/condition	L	L
Fragility/Vulnerability	М	L
Diversity	М	L
Potential	М	L
Significance	Μ	L

Table 3: Significance of sites of archaeological interest

5.2.3 In consideration of Table 3 it is worth noting that the exact location of the mill (**Site 8**) is uncertain and its origins are unclear. Nevertheless, it would be a site of relative archaeological importance, were any remains relating to it still present. It seems plausible, although there is no specific evidence to support this, that the extant Keer Bridge House (**Site 7**) originally formed part of the mill complex (**Site 8**), with the buildings used as a saw mill that are shown on later maps reusing the site of the earlier mill, although it is not clear where the original water supply was. The possible boundary stone (**Site 9**) is thought to be no longer extant and so has very low potential.

5.3 Potential for Unknown Archaeological Remains

5.3.1 Details of the archaeological remains present within the study area are presented in the results of the desk-based assessment (*Section 3*; *Appendix 2*). The potential for as yet unidentified archaeological remains to be present, however, is based on the known occurrence of such remains in the study area and also in the local environs (see Section 4). Where there are no remains known within the study area the potential is based on the known occurrence within the wider local area. The degree of potential is examined by period and the results are presented in Table 4 below; in each case the level of potential is expressed as low (L), medium (M), or high (H).

Period	Present in study area?	Potential
Late Upper Palaeolithic	Ν	L
Mesolithic	Ν	Μ
Neolithic	Ν	М
Bronze Age	Ν	L
Iron Age	Ν	L
Roman	N	L
Early Medieval	Ν	L
Medieval	Y	M
Post-medieval	Y	Н

 Table 4: Degree of potential for unknown archaeological remains by period

5.3.2 In consideration of Table 4 it is worth noting that while there are no known examples of prehistoric finds or remains from the study area, the location of the site close to a watercourse, is the kind of place that prehistoric remains of Mesolithic and Neolithic date are often found (Hodgson and Brennand 2006, 26). The presence of medieval and post-medieval remains in the immediate vicinity means that more could be present, although in the case of the medieval period this is less likely and mostly connected to the former mill known to have been located nearby.

5.4 Disturbance

5.4.1 The site has clearly seen various phases of construction and demolition associated with industrial uses during the 19th and 20th century, meaning that any earlier remains of archaeological interest are likely to have been substantially disturbed. Keer Bridge House (**Site 7**) has been substantially altered internally, but not in a way that has severely damaged the original fabric and which could not be largely undone or remedied.

5.5 Impact

5.5.1 Although no detailed plans were available regarding proposed developments it is likely that any building on site would substantially impact on any archaeological remains that might be present.

5.5.2 In terms of the specific impact on the Listed Keer Bridge House (**Site 7**), it is apparent from the site visit that this could quite easily be put back into residential use and the barn converted for the same and the remaining outbuildings also converted or selectively demolished to accommodate this. Otherwise, the most substantial impact on Keer Bridge House of any development of the area would be on its setting. At present this is very inappropriate, as it is adjacent to the access to the former industrial estate with a large metal fence and gate adjoining its south-west corner and tarmac road to the south. Trees and other vegetation growing close to it also obscure much of its elevations. The clearance of vegetation would allow the building to be seen, generally improving its setting and views to and from it, and enable the creation of an associated garden/parking, if the access road could be moved to the south or new access created from the north.

5.6 Conclusion

5.6.1 There are some remains of archaeological interest remaining within the proposed development site, principally the site of a mill (**Site 8**) and Keer Bridge House (**Site 7**). Elsewhere, the site has seen substantial disturbance, which will undoubtedly have destroyed or badly damaged any archaeological remains that might have been present.

5.6.2 The most efficient means to investigate the likelihood of any remains associated with **Site 8** being present, and to further explore those that have been identified, would be through archaeological evaluation, although a watching brief during development work in the affected areas might also be considered appropriate. In addition, an archaeological building recording of Keer Bridge House (**Site 7**) would enable a better understanding of this structure and provide a record of it prior to any work to it taking place.

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Appendix 1: Significance Criteria

After DCMS 2013

- i) *Period*: all types of monuments that characterise a category or period should be considered for preservation;
- ii) *Rarity*: there are some monument categories which in certain periods are so scarce that all surviving examples which retain some archaeological potential should be preserved. In general, however, a selection must be made which portrays the typical and commonplace as well as the rare. This process should take account of all aspects of the distribution of a particular class of monument, both in a national and regional context;
- iii) *Documentation:* the significance of a monument may be enhanced by the existence of record of previous investigation or, in the case of more recent monuments, by the supporting evidence of contemporary written records;
- iv) *Group Value*: the value of a single monument (such as a field system) may be greatly enhanced by its association with related contemporary monuments (such as a settlement and cemetery) or with monuments of different periods. In some cases, it is preferable to protect the complete group of monuments, including associated and adjacent land, rather than to protect isolated monuments within the group;
- Survival/Condition: the survival of a monument's archaeological potential both above and below ground is a particularly important consideration and should be assessed in relation to its present condition and surviving features;
- vi) *Fragility/Vulnerability*: highly important archaeological evidence from some field monuments can be destroyed by a single ploughing or unsympathetic treatment; vulnerable monuments of this nature would particularly benefit from the statutory protection which scheduling confers. There are also existing standing structures of particular form or complexity whose value can again be severely reduced by neglect or careless treatment and which are similarly well suited by scheduled monument protection, even if these structures are already listed historic buildings;
- vii) *Diversity*: some monuments may be selected for scheduling because they possess a combination of high quality features, others because of a single important attribute;
- viii) *Potential*: on occasion, the nature of the evidence cannot be specified precisely but it may still be possible to document reasons anticipating its existence and importance and so to demonstrate the justification for scheduling. This is usually confined to sites rather than upstanding monuments.

Appendix 2: Site Gazetteer

Site Number: 1 NGR: SD 50069 71582 HER No: MLA12207 Sources: HER; LUAU 1993; English Heritage 2015; 2017a; 2017b Designation: none Site Type: earthwork (bank; mound; ridge and furrow) Description: North of River Keer, west of Scotland Road, Warton; fairly low, irregular earthworks contained within present field boundaries. The earthworks include some linear banks, possibly boundaries, and some small, low occasionally regular mounds. The banks can be traced for approximately 20m and could be the result of cultivation. Situated in the north-east corner of the field is a fairly flat square area, with a possible drainage ditch around it (LUAU 1993). The earthwork remains of two areas of probable post medieval ridge and furrow (straight and narrow in

nature and recorded in Monument Number: 1573984) can be seen to be bisected north/south by linear ditches and ditches which could be the remains of a trackway or hollow way which can be traced for c170m (Historic England 2017a).

The earthwork remains of a number of fields of medieval or post medieval ridge and furrow seen at SD 4969 7185 and SD5008 7162 between Carnforth and Warton (English Heritage 2015; 2017b). **Period**: post-medieval/uncertain

Site Number: 2

NGR: SD 49778 71511 HER No: MLA12311 Sources: HER; LUAU 1993; Ordnance Survey 1848; 1891b Designation: none Site Type: quarry Description: Grange View, Millhead, Carnforth; a small quarry in the north-west corner of the present Grange View cul-de-sac (Ordnance Survey 1891b). Post-dates 1848 (Ordnance Survey 1848). Period: post-medieval

Site Number: 3

NGR: SD 49700 71400 HER No: MLA4741 Sources: HER; Price 1983, 77; Ashmore 1969, 76; Ordnance Survey 1848; 1891b; Chatterley 1982, 2; 1984, 5; Chatterley and Findlater 1991; Chatterley and Findlater 1993, 13, 19, 21; Harris 1960, 116; MLHS 1982, 9; LCAS 2006, 24-25, 30

Designation: none

Site Type: workers' housing

Description: Millhead, Carnforth; Millhead is a workers colony begun in 1864 by the ironworks company to house its workforce. By 1872, there were about 100 small brick and stone cottages (with rear privies) arranged in terraces e.g. Albert Terrace, with corner shops etc. (Price 1983, 77; Ashmore 1969, 76).

The location is shown as a small hill called Great Mill Head just north of the River Keer on the 1848 mapping, and appears to be all farmland (Ordnance Survey 1848).

The settlement of Millhead was within Warton but was close to the Carnforth township boundary and first appeared on maps in 1891 (Ordnance Survey 1891b), when it was named Dudley. This name appears to have been applied to the new settlement because as revealed in the 1871 census a large number of the inhabitants had been born in Dudley in the Black Country and many others, though originating elsewhere, had moved to Millhead from Dudley (Chatterley 1982, 2). A pattern of 19th century industrial worker migration is revealed probably caused by a contemporary decline in the West Midlands iron

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industry (Chatterley and Findlater 1993, 19). With skilled workers required for the new venture in Carnforth, trained ironworkers migrated from the West Midlands to north Lancashire. In order to attract workers, the Carnforth Company paid for the construction of a new settlement. The 56 houses in Albert and William Street, built around 1866, were nearly all inhabited by ironworkers in 1871 (Chatterley and Findlater 1993, 13). These were two-up two-down through houses with pantry and box room and an external bespoke ashpit (Chatterley and Findlater 1993, 21), and were well constructed workers' cottages and would have been attractive to prospective employees.

In 1872 the Lancaster Gazette recorded that 36 concrete houses were to be built by the Carnforth Haematite Iron Company. These were built by the following year (MLHS 1982, 9). Further cottages were built between 1878 and 1890. Even so, whilst the houses may have been built to good contemporary standards of worker accommodation, they were crowded, unsewered and were not provided with a fresh water supply. As a result, in the 1870s and 80s when Carnforth was in the grip of a public health crisis, Dudley came in for particular criticism. It was described as a "nursery of fever" in 1872 (Harris 1960, 116). Even after the provision of adequate services in the 1880s, inappropriate use of the privy outhouses where chickens, ducks and rabbits were kept was cited as an especial problem (Chatterley 1984, 5).

The settlement of Millhead was originally known as Dudley and it was developed as a discrete community for ironworkers in the later 1860s. Consisting primarily of two-up two down terraced cottages along Albert and William Streets (Chatterley and Findlater 1993, 21), the area represents a remarkable survival of little altered pre-bye law purpose-built industrial workers' housing. Rows of unenclosed rear external privies survive and the basic layout of the settlement is still much as it would have been *c*1870. The houses are mainly two-storey although there are a few three-storey terraces and are of brick or stone construction, with some properties rendered. The character area also includes Carlisle Terrace, which were houses constructed for railway workers, and an area of garaging (LCAS 2006, 24-25, 30). **Period**: post-medieval

Site Number: 4

NGR: SD 49709 71393 HER No: MLA20603 Sources: HER; Ordnance Survey 1891b; Chatterley and Findlater 1993, 23; LCAS 2006, 27 Designation: none Site Type: chapel (primitive Methodist) Description: Foundary Gardens, Millhead, Carnforth; Methodist Chapel (Primitive) on first edition 1:2,500 map, 1891 (Ordnance Survey 1891b). The Primitive Methodists erected a chapel at Millhead in 1873 (Chatterley and Findlater 1993, 23; LCAS. 2006, 27). The building appears on the LCC 1960s aerial photography, so was demolished after that. Period: post-medieval

Site Number: 5

NGR: SD 49620 71334 HER No: MLA12312 Sources: HER; Ordnance Survey 1848; 1891b; LUAU 1993; MHLG 1960, 104 Designation: none Site Type: country house (demolished) Description: The site of a country house now occupied by Hazelmount Drive and housing estate (Ordnance Survey 1891b; LUAU 1993). Erected after 1848 (Ordnance Survey 1848). Hazel Mount, Millhead, Carnforth; early 19th century. Stone. Graded slate roof. Moulded cornice and

Hazel Mount, Millhead, Carnforth; early 19th century. Stone. Graded slate roof. Moulded cornice and heavily projecting modillioned eaves continue all round house. Square plan of three bays. Enclosed courtyard and stables at rear, two storeys. Central panelled door with a dentilled lintel and a fanlight

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above, in a stone doorcase with Composite pilaster, a moulded frieze, and a dentilled cornice which continues across the whole front, over two canted bay windows with sashes. Five sash windows on first floor. Single storey lodge of gault brick with stucco quoins, square on plan with a pyramidal roof and small-paned sash windows. Grade III (MHLG 1960, 104) **Period**: post-medieval

Site Number: 6

NGR: SD 49700 71288 HER No: MLA20604 Sources: HER; Ordnance Survey 1848; 1891b Designation: none Site Type: gate lodge (demolished) Description: Lodge, adjacent to 1 Hazelmount Drive, Warton Road, Carnforth; Gate lodge to Hazel Mount shown on first edition 1:2,500 Ordnance Survey map (1891b), no longer extant. Post-1848. Period: post-medieval

Site Number: 7

NGR: SD 49749 71272 HER No: MLA15637 Sources: HER; MHLG 1960, 105 Designation: Listed Grade II Site Type: house

Description: Keer Bridge House, Mill Lane, Warton; Keer Bridge House, Millhead: House of former sawmill, once cornmill. Probably 18th century, the front new in older style, the rear original. Stone. Graded slate roof, with shaped ends to stone copings, and two stone chimney stacks on ends of ridge, two storeys. Central panelled door in a stone porch with a gable and shaped eaves, a slit opening in centre above. Two three-light stone-mullioned windows on each floor. Barns etc. continue to the right under lower roof, with a 16-paned window and a segmental-arched barn entrance. Rear has small sash windows. Thick walls. Grade III (MHLG 1960, 105).

House, mid-19th century. Squared coursed limestone with limestone dressings and slate roof. In the local vernacular style, on the site of an earlier house. Two-unit plan with central porch and gable stacks. Two storeys. All front windows rebated and chamfered with mullions. To the left of the porch is a three-light window, with a similar window to the right with mullions removed. Two three-light windows on the first floor with a blank one-light rebated and chamfered opening between. Porch gabled with coping and kneelers. House gables have copings and kneelers. Rear wall has sashed windows in plain stone surrounds.

Period: post-medieval

Site Number: 8

NGR: SD 4974 7125 HER No: MLA12313 Sources: HER; Ordnance Survey 1848; LCAS 2006, 19; Yates 1786; Farrer and Brownbill 1914, 162, 168; Harley 1968, 43; Ford and Fuller-Maitland 1931, 128-129; Stobbs et al 1997; LUAU 1993; LRO DRB 1/195

Designation: none

Site Type: water mill (demolished); corn mill (demolished)

Description: Water Mill, Bridge End, Millhead; Both Warton and Carnforth are recorded as having corn mills in the medieval period. The manor of Warton was known to have both a windmill and a watermill by 1346-7 (Farrer and Brownbill 1914, 162). The manorial corn mill descended with the rest of the manor until sold off in the early 17th century. The mill was still extant in 1786 (Harley 1968, 43) but had been

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abandoned by 1846 (LRO DRB 1/195), though a building is marked in the approximate position in which the mill was depicted in 1786. It was adjacent to the Lower Keer or Warton Bridge on the road to Carnforth on the upstream side (Harley 1968, 43).

Carnforth Mill was another manorial corn mill which like the manor to which it belonged was held in moieties for much of the medieval period. It was in existence by 1312 (Farrer and Brownbill 1914, 168). The mill was still operational in the early 18th century but had probably ceased operation by 1786 (Ford and Fuller-Maitland 1931, 128; Harley 1968, 43). It was not fed by the Keer, the waters of which had been dammed and taken by Warton Mill, but was supplied by a series of springs. There were problems with water supply by c1700 as the then miller made two abortive attempts to gain additional supply including through a goit from the Keer (Ford and Fuller-Maitland 1931, 128), an effort which was presumably opposed by the miller at Warton Mill. Difficulties with water supply probably ended Carnforth Mill's functional existence some time in the mid-18th century. Its location is given by Lucas as about 100 yards east of a house called Brig End, a house he knew well as he was born there (Ford and Fuller-Maitland 1931, 129). This is the house known as Bridge End on 19th century maps. In 1817 and in 1836, a building is depicted about 100 yards to the east of Bridge End (LRL PI 8/1; PI 8/2) and this must be the site of Carnforth Mill. In 1817 there are clear indications of a watercourse going to it with an exit out to the Keer (LRL PI 8/2). The building had disappeared by 1848 (Ordnance Survey 1848; LCAS 2006, 19).

A watermill symbol annotated 'Warton Mill' is shown on William Yates' map of 1786. It is located on the east side of the road from Carnforth to Warton at the point that it crosses the River Keer. The symbol appears to be just on the north side of the river, but at this scale of mapping cannot be taken as accurately indicating the actual mill site.

Not shown or named on the Ordnance Survey 1:10,560 map of 1848.

Not visited in the field (not clear if this refers to Carnforth or Warton Mill) (LUAU 1993).

Warton Mill was the only royal mill in the parish. There is a suggestion that it may have been one of those that came into lay hands at the Dissolution, having formerly belonged to the monastery of Sion, but the evidence is inconclusive. It may simply have belonged to the crown because it was part of the crown manor of Warton. The mill was sold by James I. At least when a rental of Warton manor, "Late parcell of the possessions of Charles Stewart late King of England" was prepared by the commissioners for the Commonwealth government in 1649 it mentions a mill that had been sold off at least twenty years before: "there is but one water Milne in the said Mannor of Warton which is held by Leon: Washington Gent who is now out of the country but we are informed that the said Leo Washington did purchase the rent of the said Milne which formerly was about £4 per annum of the King but ... the rent hath not been paid these 20 years." ... In 1668 a certain Christopher Charnley was found to have converted Warton Mill into a cottage ... In the same year there had been "Several sad, and grievous Complaints" against Charnley for taking excessive toll [of grain being ground]. ... There was still a mill in 1699 "Myles Covert millner" was fined ... A year before a Thomas Chorley, millner, had died. ... No trace of a mill remains in Warton today. According to Lucas ... it lay on the flat lands below Milnhead. The river Keer was diverted by a mill dam at "The Launds" (meadows down near where the railway now crosses the Keer) and was then "brought down the meadows to the Mill in a Channel above half a mile in length..." (Stobbs et al 1997).

Period: medieval

Site Number: 9 NGR: SD 49731 71247 HER No: MLA12314 Sources: HER; Ordnance Survey 1891b Designation: none Site Type: boundary stone? Description: Warton Bridge; a stone shown on the Ordnance Survey (1891b) first edition 1:2,500 map but not visited in the field. It is possibly a boundary stone. Period: post-medieval?

Site Number: 10

NGR: SD 4888 7154

HER No: MLA12155

Sources: HER; LUAU 1993; Bolton 1995; Archaeological Research Services Ltd 2011; Historic England Pastscape Web Pages. HOB UID 1002627; Ordnance Survey 1891a; 1891b; 1891c; 1913a; 1913b; 1913c

Designation: none

Site Type: mineral railway; sea defences

Description: Cote Stones, Warton; a tramway feeding between the quarry and an embankment along the edge of the mudflats. It is built up on a raised platform with revetted sides and has a level upper surface for rail tracks. It is now in use as a track and measures 4m in width (LUAU 1993).

This mineral railway and embankment are marked on the 1891 edition of the Ordnance Survey 1:2,500 mapping as running from Scout Quarry (PRN 12151) to a position on what is now the edge of the saltmarsh at SD 4757871066 (Ordnance Survey 1891a), a distance of some 3.1km (Ordnance Survey 1891a; 1891c) [Note the east end appears to join the London and North Western Railway as it leaves Carnforth; Ordnance Survey 1891b - this is the section that passes through the study area]. By 1913 (OS 1:2,500 second edition) the embankment had been extended some 330m to SD 4737271353, which appears to have been its final extent (Ordnance Survey 1913a; cf. Ordnance Survey 1891a). The rail line is no longer marked along the embankment on this later mapping [at the far west end; see Ordnance Survey 1913a and Ordnance Survey 1913c).

Whilst no direct link is shown, it would have been relatively easy for the quarry also to supply limestone to the Carnforth Iron and Steel Works and also for slag from the works to have been dumped as part of the embankment construction. Indeed, inspection of the embankment shows that much of it is not composed of limestone blocks or rubble (as per the embankment at Jenny Browns Point), but of a finer grained and less consolidated material which could easily have been derived from the ironworks waste.

This large embankment is probably associated with the scheme for the reclamation of a part of the Bay, proposed in 1873 by Henry Walduck of Manchester, and later of Silverdale. Objections from local residents were heard in Parliamentary Committee on the 1st, 4th and 5th of May 1874, and showed that grazing rights on the foreshore, confirmed by the Enclosure Award of 1817, would be threatened by the proposals. A modified scheme to enclose the land between Jenny Brown's Point and Hest Bank was free of this encumbrance, and was put into effect until work was abandoned for financial reasons. Part of the land reclaimed by this embankment was later used for dumping slag and other waste from the Carnforth Iron Company's works (Henry Walduck was the manager at one point) and has subsequently been re-used as a stock car racing club circuit.

Areas of reclaimed marsh behind the slag dumping have been utilised for domestic waste disposal by Lancashire CountyCouncil (Bolton 1995).

Tramway first shown on the Ordnance Survey first edition 25" maps of 1891 (Ordnance Survey 1891a; 1891b; 1891c; 1913a; 1913b; 1913c; <u>note the east end appears to join the London and North Western</u> <u>Railway as it leaves Carnforth-</u> this is the section that passes through the study area). Tramway between Scout Crag quarry and an embankment at the limit of the saltmarsh. It is built up on a raised platform, 4m wide, with revetted sides and a level surface, and is now in use as a track. There is no evidence of rail tracks (Archaeological Research Services Ltd 2011; Historic England Pastscape Web Pages. HOB UID 1002627).

Period: post-medieval

Site Number: 11 NGR: SD 49830 71148 HER No: MLA24105 Sources: HER; Farrer and Brownbill 1914, 162, 165-70; Ford and Fuller-Maitland 1931, 128-129; Hodgson 1836, plot 381; LCAS 2006; Ordnance Survey 1848; Harley 1968, 43; LRO DRB 1/195; Yates 1786; LUAU 1993; Stobbs *et al* 1997, 8-9 Land at Keerbridge, Carnforth, Lancaster, Lancashire: Archaeological Desk-Based Assessment and Heritage 41 Assessment

Designation: none

Site Type: watermill (demolished)

Description: Carnforth Mill, Bridge End, Carnforth; the mill was supplied with water from three springs. A hundred yards west of it, by Keer Bridge, was the house called Brig End, [John] Lucas's birthplace. ... In 1333 Christiana de Gynes died holding it [a moiety of the manor of Carnforth] of Henry Earl of Lancaster, paying 1d. yearly for castle ward and doing suit to county and wapentake (There were 111 acres of land, by the small hundred, held by tenants at will (40 acres at 8d. and 71 at 6d.), 8 acres of meadow at 16d. each and ten cottages each rendering 12d. yearly; the moiety of a garden paid 3d. and the moiety of a water mill 7s.; seven free tenants rendered 5s. a year.) ... In 1312 Robert de Washington and Joan his wife settled messuages and lands in Carnforth on their son Robert and Agnes his wife. After Robert's death in 1324 it was found that he and Joan his wife were jointly seized of a moiety of the manor of Carnforth by grant of Walter de Strickland; it was held of the king as of the earldom of Lancaster by the twenty-fourth part of a knight's fee and 2½d. for castle ward. The moiety was worth in easements, &c., 6d. only, because it had been wasted by the Scots; in demesne were 40 acres of arable land, 6 acres of meadow and the moiety of a water mill.

... James Lawrence of Ashton in 1479 demised to William Patchet for eleven years the Ox Pasture in Carnforth, on which he was to erect a water mill, at a rent of 20s. ... (Farrer and Brownbill 1914, 165-70). The mill is described as being about 100 yards east of 'Brig End' (Ford, Fuller-Maitland. 1931. -. p.129).

A building was still extant on the site, with remnants of a mill race in 1817. Shown as plot 381 on the 1836 mapping, with what appears to be a tail race running south through field 380. No obvious head race appears but there are a series of drains etc. to the north and west, which may have formed part of the water gathering system (Hodgson 1836; LCAS 2006).

No mill is shown or named here on the Ordnance Survey 1:10,560 mapping of 1848.

Both Warton and Carnforth are recorded as having corn mills in the medieval period. The manor of Warton was known to have both a windmill and a watermill by 1346-7 (Farrer and Brownbill 1914, 162). The manorial corn mill descended with the rest of the manor until sold off in the early 17th century. The mill was still extant in 1786 (Harley 1968, 43) but had been abandoned by 1846 (LRO DRB 1/195), though a building is marked in the approximate position in which the mill was depicted in 1786. It was adjacent to the Lower Keer or Warton Bridge on the road to Carnforth on the upstream side (Harley 1968, 43).

Carnforth Mill was another manorial corn mill which like the manor to which it belonged was held in moieties for much of the medieval period. It was in existence by 1312 (Farrer and Brownbill 1914, 168). The mill was still operational in the early 18th century but had probably ceased operation by 1786 (Ford and Fuller-Maitland 1931, 128; Harley 1968, 43). It was not fed by the Keer, the waters of which had been dammed and taken by Warton Mill, but was supplied by a series of springs. There were problems with water supply by c1700 as the then miller made two abortive attempts to gain additional supply including through a goit from the Keer (Ford and Fuller-Maitland 1931, 128), an effort which was presumably opposed by the miller at Warton Mill. Difficulties with water supply probably ended Carnforth Mill's functional existence some time in the mid-18th century. Its location is given by Lucas as about 100 yards east of a house called Brig End, a house he knew well as he was born there (Ford and Fuller-Maitland 1931, 129). This is the house known as Bridge End on 19th century maps. In 1817 and in 1836, a building is depicted about 100 yards to the east of Bridge End (LRL PI 8/1; PI 8/2) and this must be the site of Carnforth Mill. In 1817 there are clear indications of a watercourse going to it with an exit out to the Keer (LRL PI 8/2). The building had disappeared by 1848 (Ordnance Survey 1848; LCAS 2006).

A watermill symbol annotated 'Warton Mill' is shown on William Yates' map of 1786. It is located on the east side of the road from Carnforth to Warton at the point that it crosses the River Keer. The symbol appears to be just on the north side of the river, but at this scale of mapping cannot be taken as accurately indicating the actual mill site. From the above this is certainly Warton Mill, not Carnforth Mill (see PRN12316).

Not visited in the field (not clear if this refers to Carnforth or Warton Mill) (LUAU 1993).

... even less is known of Carnforth Mill. Lucas is again the source of our information. He says that it stood very near the Keer [Lucas p.41], presumably on the south bank, but was not turned by the river. It drew the necessary water from three springs. They were inadequate it seems for, at the end of the 17th century, the Miller, one Thomas Ward, made two attempts to improve the water supply. He thought first

of an aqueduct over the Keer to bring the water from the Carlepot, a fast-flowing spring in Warton. His second idea was to draw a 'goit', a water source from the Keer above the mill. That project too failed [Lucas p.128]. Nevertheless in the eighteenth century Mr James Lucas, cousin of the Historian, thought it worthwhile to buy the Carnforth Mill as well as the Warton one (Stobbs *et al* 1997, 8-9). **Period**: medieval

Site Number: 12

NGR: SD 4973 7113

HER No: MLA24114

Sources: HER; Ford, Fuller-Maitland. 1931. -. p.129; Russel 1817; Hodgson 1836, plot 378 or 379; LCAS 2006; Ordnance Survey 1848; 1891b

Designation: none

Site Type: house

Description: Bridge End, Carnforth; in existence by 1700, and the birthplace of John Lucas, historian of Warton (Ford, Fuller-Maitland. 1931. -. p.129).

Two buildings are clearly marked on maps of 1817 and 1836 on either side of the main road where the track runs off east to Carnforth Mill, immediately south of the Lower Keer Bridge (Russel 1817; Hodgson 1836)

Carnforth Mill's ... location is given by Lucas as about 100 yards east of a house called Brig End, a house he knew well as he was born there (Ford and Fuller-Maitland 1931, 129). This is the house known as Bridge End on 19th century maps (LCAS 2006).

Bridge End is named and marked (as noted above) on the Ordnance Survey 1:10,560 mapping of 1848 (surveyed 1845). The larger building to the west of the main road is presumed to be Bridge End, but this needs to be checked with the Russell and Hodgson maps (above). Both structures had been lost, apparently due to adjacent railway development, by the time of the 1891 1:2,500 sheet (Ordnance Survey 1891b).

Period: post-medieval

Site Number: 13

NGR: SD 49813 71102 HER No: MLA24115 Sources: HER; Wilson 1983, 13; Joy 1983, 131; LCAS 2006, 22 Designation: none Site Type: railway station

Description: Midland Station, off Warton Road, Carnforth; Midland Station by the Midland Railway Company in 1867. It was abandoned in 1879-1880 with the construction of the Carnforth Curve (Wilson 1983, 13).

A new station was built for use exclusively by the Midland Railway Company to the east of the Warton Road (Wilson 1983, 13), amongst other services this provided access to the 'boat trains' to Piel Island (Joy 1983, 131). With the construction of the Carnforth Curve in 1879 the Wennington line ran directly into the mainline station, this led to the abandonment of the Midlands station and the rebuilding of Carnforth Station (Joy 1983, 131; Wilson 1983, 13; LCAS 2006, 22).

The date of this station places it between the dates of the first edition Ordnance Survey 1:10,560 and 1:2,500 mapping and it is not marked on either map (Ordnance Survey 1848; 1891b). The NGR provided places it on a pre-1891 Signal Box site, (PRN20647) so perhaps mis-located. **Period**: post-medieval

Site Number: 14 NGR: SD 49835 71094 HER No: MLA20607 Land at Keerbridge, Carnforth, Lancaster, Lancashire: Archaeological Desk-Based Assessment and Heritage 43 Assessment

Sources: HER; Ordnance Survey 1848; 1891b Designation: none Site Type: signal box (demolished) Description: Carnforth East Junction, east of Warton Road, Carnforth; S.B. (Signal Box) on Ordnance Survey (1891b) first edition 1:2,500 map. No longer extant. Post-1848. No longer extant. Period: post-medieval

Site Number: 15

NGR: SD 47894 74711 HER No: MLA34078 Sources: HER; Transport Heritage 2013; Furness Railway Trust 2022; Wilson 1983, 11-12; Joy 1983, 131; Peter 1985, 42; LCAS 2006

Designation: none **Site Type**: railway

Description: Ulverston and Lancaster Railway (Furness Railway); The Ulverston and Lancaster Railway was opened between Ulverston and Carnforth in 1857. It was taken over by the Furness Railway Company in 1862 (English Heritage. 2013. http://www.pastscape.org.uk/hob.aspx?hob_id=1372699. Hob UID 1372699).

In 1837, George Stephenson was considering the route from Lancaster to Carlisle, and thence to Scotland and proposed a curved embankment across Morecambe Bay between Poulton-le-Sands and Humphrey Head, then following the coast northwards. He was concerned that an inland route over the fells would involve dangerously steep slopes. In 1843, the plan was shelved in favour of a route via Shap Fell. Consequently, Furness had to make its own arrangements to link to the national network and would require a crossing of Morecambe Bay. This was a daunting prospect, as the quicksands and fierce tides of the bay are notorious, but the iron mining companies at Barrow needed a significantly improved rail infrastructure to make their product competitive.

The directors of the Furness Railway were hesitant - they had built a branch as far as Ulverston but were doubtful of the viability of a line onwards to Lancaster. However, John Brogden and Sons, a Manchesterbased firm of railway contractors and promoters who had expanded into iron mining activity in the Furness area decided to do the job themselves. The Ulverstone [sic] and Lancaster Railway Act received the Royal Assent in 1851, for a line 31 km (19 miles) in length of which 16 km (10 miles) comprised embankments, and viaducts across the tidal estuaries of the rivers Kent and Leven. Much of this was sand running to a depth of 9 to 20 km [sic] (30 to 70 ft).

Work on the line was not in full progress until September 1853, owing to shortages of labour and accommodation, with James Brunlees as Superintendent Engineer. The viaducts were constructed by W & J Galloway of Manchester. The line was opened on 26 August 1857 after a total expenditure of £410,000. By 1859 the line began to pay its way. In 1862 an agreement was made between the shareholders of the U&L and FR. U&L shareholders received 5% preference stock in the Furness Railway in return for their U&L shares. This railway link was critical to the later industrial development of Barrow-in-Furness and its locality and mining interests (Transport Heritage 2013).

In the early years of the 20th century, a new era began at the Furness Railway, under the new general manager Alfred Aslett. He inherited a system with run down facilities and falling traffic. His strategy was bold, and has had a lasting effect on the Lake District. Aslett transformed the Furness Railway into a tourist line. It was really a matter of refocusing the business: steamers brought in tour parties from the popular holiday destinations of Blackpool and Fleetwood across Morecambe Bay to Ramsden Dock station. Trains could take the holiday makers to either Coniston or Lakeside (at the bottom end of Windermere), and the FR operated steamers on both lakes. Charabancs were used to provide a number of circular tours from the northern end of the two lakes. The era of mass tourism in the English Lake District had begun. War intervened in 1914, and all the railways emerged from the conflict four years later run down and in need of new investment. The Government's Railway Act of 1921 signalled the end of the plethora of interlinking independent railway companies, many of whom dated back to the earliest years of railways in Britain, the country that gave birth to the railway. Four massive companies were to

be created, and the Furness Railway was absorbed into the London Midland and Scottish Railway at midnight on the 31st December 1922 (Furness Railway Trust 2022).

A minor station known as Carnforth-Yealand station was built adjacent to the Warton Road (Wilson 1983, 11; Ordnance Survey 1848). Its choice of name may be a sad indication of the decline in importance of Warton. The station was merely a minor halt for a series of rural communities and it was not until 1857 when the Carnforth to Ulverston line was completed, joining the mainline at Carnforth, that the station acquired any significance (Joy 1983, 131).

A new larger station known as Carnforth Station was erected in 1857 on the site of the earlier station (Wilson 1983, 11). Ten years later a further line to Wennington was built by the Furness Railway Company, who owned the Ulverston line, in collaboration with the Midlands Railway Company (Peter 1985, 42). The line had been planned in 1861 to improve the transportation of haematite iron ore from Furness to the iron making regions of Yorkshire (Wilson 1983, 12; LCAS 2006). **Period**: post-medieval

Appendix 3: Summary of Listed Building Information

KEER BRIDGE HOUSE, MILL LANE (Historic England 2022)

Heritage Category:	Listed Building	
Grade:	II	
List Entry Number:	1071833	
Date first listed:	7 th November 1983	
Statutory Address:	KEER BRIDGE HOUSE, MILL LANE	
County:	Lancashire	
District:	Lancaster (District Authority)	
Parish:	Warton	
National Grid Reference:	SD 49750 71276	

Description:

House, mid-19th century. Squared coursed limestone with limestone dressings and slate roof. In the local vernacular style, on the site of an earlier house. Two-unit plan with central porch and gable stacks. Two storeys. All front windows rebated and chamfered with mullions. To the left of the porch is a three-light window, with a similar window to the right with mullions removed. Two three-light windows on the first floor with a blank one-light rebated and chamfered opening between. Porch gabled with coping and kneelers. House gables have copings and kneelers. Rear wall has sashed windows in plain stone surrounds.

Appendix 4: Summary of Census Information

Address	Name	Age	Occupation	Place of birth
Keer Bridge House, Warton	Robert Wilson	30	Timber merchant	Warton, Lancashire
	Mary Alice Wilson	31		
	Eleanor Beatrice Wilson	2mo		

Details from the census return for 1911 for Keer Bridge (RG14/Enumeration District 10 1911)

Address	Name	Age	Occupation	Place of birth
Keer Bridge House	William Wilson	52	Joiner carpenter	Lancashire Warton
	Elizabeth Wilson	46		Cumberland Littledale
	Robert Wilson	20	Sawyer	Lancashire Warton
	Beatrice Wilson	17		Lancashire Warton
	John N Wilson	15	Grocer's apprentice	Lancashire Warton
	Arthur E Wilson	12		Lancashire Warton
	William Hy Wilson	10		Lancashire Warton
	Thomas A Wilson	8		Lancashire Warton
	Maggie Wilson	6		Lancashire Warton
	Agnes Wilson	2		Lancashire Warton
	George Edward Wilson	9mo		Lancashire Warton

Details from the census return for 1901 for Keer Bridge (RG13/Piece 3994/Folio 58/Page 1 1901)

Address	Name	Age	Occupation	Place of birth
Warton Road (Keer	William Wilson	43	Joiner and Builder	Lancashire Warton
Bridge House)	Elizabeth Wilson	36		Lancashire Littledale Caton
	Robert Wilson	10	Scholar	Lancashire Warton
	Mary E Wilson	9	Scholar	Lancashire Warton
	Beatrice Wilson	7	Scholar	Lancashire Warton
	John N Wilson	5	Scholar	Lancashire Warton
	Arthur E Wilson	2		Lancashire Warton
	William Hy Wilson	6		Lancashire Warton

Details from the census return for 1891 for Keer Bridge (RG12/Piece 3469/Folio 49/Page 10 1891)

Properties at Keer Bridge are not specifically named in the 1881 census.

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Address	Name	Age	Occupation	Place of birth
Keer Bridge	Robert Stainton	73	Retired farmer	Troughtbeck [sic] Westmorland
	Elizabeth Stainton	43	Housekeeper	Liverpool Lancashire
	Alan Johnson	15	General servant Domestic	Lancaster Lancashire

Details from the census return for 1871 for Keer Bridge (RG10/Piece 4233/Folio 37/Page 1 1871)

Address	Name	Age	Occupation	Place of birth
Keer Bridge	Robert Stainton	63	Yeoman	Westmorland Troutbeck
	Mary Stainton	61		Westmorland, Kendal
	Elizabeth Stainton	20		Lancashire, Harrington
	Elizabeth Stainton	35		Lancashire, Liverpool

Details from the census return for 1861 for Keer Bridge (RG9/Piece 3164/Folio 49/Page 1 1861)

The house is not individually named in the census information for 1851 or 1841.

Appendix 5: Archive Index

Project name:	Land at Keerbridge, Carnforth, Lancaster, Lancashire: Archaeological Desk-Based Assessment and Heritage Assessment				
Project Code:	G1519	Site Code:	n/a		
Description	Material	Size	Quantity		
Report	Paper, comb-bound	A4	24 sheets, single- and double-sided		
Photo record sheet	Paper	A4	1 sheet, double-sided		
Miscellaneous working drawings	Paper	A4	1 sheets, single-sided		
Digital archive index	Paper	A4	1 sheet, single-sided		
Digital archive	DVD	-	1		