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**Desk-based Assessment
for the
Sovereign Harbour Cycle Network
Phases 2 and 3,
(Ringwood Road to St Anthony's Hill
Roundabout)
Eastbourne, East Sussex
(updated from the original **Desk-
based Assessment for Phase 2A)****

Project No. CBAS0176

by
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Summary

The archaeological Desk-based Assessment on the route of the Phase 2A Sovereign Harbour Cycle Network route has been updated to cover all of Phase 2 and Phase 3 between Ringwood Road and the roundabout at St. Anthony's Hill, Eastbourne, East Sussex.

The Phase 2 cycleway route follows the Horsey Sewer along most of its length. The documentary and map evidence suggests that there has been little change in the immediate landscape and land use, between the medieval period and the later 19th century. There is no evidence for any earlier archaeological features or activity within the site. Its location on the edge of the Levels and the presence of archaeological remains in the broader landscape may, however, suggest the existence of buried archaeological remains from prehistory through to the medieval period.

The only known impact to the Phase 2 site has been the construction of a tramway and its associated works in the 19th century, together with the tanks at the northeast end, noted on the 4th Edition OS map, and the recent building of the Bridgemere Community Centre. Evidence for the tramway survives in the upper levels of the stratigraphy or on the ground surface, whilst three bridges that carried the tramway across the Horsey Sewer also survive, and may be affected by the proposed development.

The proposed Phase 3 cycleway route runs through the Levels to follow both the Horsey Sewer and the Crumble Sewer. Prior to the medieval period when the land was reclaimed, this landscape was in constant change, having perhaps become more accessible in the Bronze Age with the expansion of peat, but less so afterwards with flooding in the Iron Age and a rise in sea level in the Roman period. As little activity is likely to have taken place at the Phase 3 site prior to land reclamation, this route has an overall low potential for the discovery of finds and features of a pre-medieval date.

The Phase 3 site may have greater potential of containing medieval remains, possibly associated with land reclamation. The potential is likely to be high for the Post Medieval period only. The Crumble Sewer is probably of this date, having perhaps been excavated in the early 17th century. A century later, St. Anthony's Hill was the site of a Napoleonic Martello Tower. The use of the area as pasture was temporarily interrupted in the first quarter of the 20th century with the construction of a training airfield that was operational during World War 1. The only remains of this phase of use may be a plank bridge across the Crumble Sewer and a sluice sited further to the southwest. The weir-like structure on the Crumble Sewer and most of the Horsey Sewer are of recent date, as were the one or two buildings that once stood at the northeast end of the cycleway. Construction of some of the above 20th century structures may have impacted upon any adjacent archaeological deposits within the Phase 3 site. Any remains of the airfield are likely to lie directly below the ground surface and would be destroyed by groundworks associated with the proposed scheme.

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1. Introduction

1.1 Chris Butler Archaeological Services Ltd has been commissioned by East Sussex County Council to update the original Archaeological Desk-based Assessment of the route of the Sovereign Harbour Cycle Network Phase 2A to cover all of Phase 2 and Phase 3 between Ringwood Road and the roundabout at St. Anthony's Hill, Eastbourne, East Sussex, in order to establish the likely presence and importance of any archaeological remains that may be affected by the proposed construction.

1.2 The Desk-based Assessment for Phase 2A¹ was produced in December 2010, in advance of planning permission on land then owned by Eastbourne Borough Council and the Environment Agency, amongst others. As part of this initial feasibility study, an archaeological assessment excavation was carried out in early 2011². An archaeological watching brief³ was subsequently undertaken during the construction of the Phase 2A cycleway between Ringwood Road and Churchdale Road; the remaining section of this phase will also be the subject of a watching brief when construction commences (Phase 2B). The Desk-based Assessment report of 2010 has been updated to incorporate Phase 3 of development, which is currently seeking planning permission. A brief was prepared by the East Sussex County Archaeologist for the archaeological assessment of Phase 2A only⁴. This version of the Desk-based Assessment is only relevant to further decision-making on Phase 2B and Phase 3.

Phase 2A	-	work completed
Phase 2B	-	the WSI prepared for Phase 2A will apply to Phase 2B also and has already been agreed by planners
Phase 3	-	the subject to a new planning application that has yet to be submitted and will make reference to this document

1.3 The cycleway route is located to the north of Eastbourne town centre (Figs. 1 and 2). Phase 2 is on Southbourne Level, between Ringwood Road (TQ 6133 0069) and Lottbridge Drove (TQ 6231 0127). Phase 3 of the cycleway extends northeast, skirting around the base of St Anthony's Hill and crossing the West Langney Level, to exit onto the roundabout south of Langney Bridge, where the A259 meets the B2104 and Princess Road. Most of the cycleway follows the course of the Horsey Sewer, which flows northeast to meet the Crumble Sewer at St Anthony's Hill before turning south towards the sea. Northeast of this point, the route of the Phase 3 cycleway follows the Crumble Sewer before crossing over it and diverting across the Level and over two

¹ Butler, C. 2010. *Desk-based Assessment for the Sovereign Harbour Cycle Network Phase 2A (Ringwood Road to Lottbridge Drove) Eastbourne, East Sussex*. CBAS Report.

² Butler, C. and Meaton, C. 2011. *An Archaeological Evaluation along the route of the Sovereign Harbour Cycle Network Phase 2A (Ringwood Road to Lottbridge Drive)*. CBAS Report.

³ Bradshaw, A. 2012. *An Archaeological Watching Brief on the route of the Sovereign Harbour Cycleway Network, Phase 2A, (Ringwood Road to Lottbridge Drove)*. CBAS Report.

⁴ Archaeology Team, ESCC 2010. *Brief for an archaeological desk based assessment of the proposed Eastbourne cycle route between Ringwood Road and Lottbridge Drove*.

further drains to reach the roundabout (TQ 6314 0184). The Horsey Sewer forms the boundary between the parishes of Eastbourne and Willingdon.

- 1.4** Phase 2 of the site is 1.26km long and 80m wide, and is situated at between 3m to 5m OD (Fig. 3). There is a recreation ground to the west of Phase 2A with an informal path extending from the recreation ground to Hammonds Drive where the route joins the existing footway. Most of Phase 2 is overgrown with some areas being cut back by the Environment Agency twice a year. A Stage 1 Habitat Survey has been carried out for Phase 2.
- 1.5** Phase 3 of the site is c.1.3km long and lies below 3mOD, with the lowest lying land being sited to the north of St Anthony's Hill. The cycleway is to run initially alongside the drainage ditches, first through an industrial estate where it crosses Birch Road and then along the edge of a field system to the west of the housing estate on St Anthony's Hill. Beyond the Crumble Sewer, the rest of the route runs through two fields to access the roundabout. The stretch through the industrial estate is at times heavily overgrown with vegetation and the remaining route is through pasture.
- 1.6** The site (Phases 2 and 3) is not within a designated Conservation Area⁵ or an Archaeological Notification Area, although a number of Archaeological Notification Areas are located to the immediate northwest and southeast of the cycleway (Fig. 4). The closest are to the Phase 3 cycleway route and cover the sites of a 19th century Mortello Tower on St Anthony's Hill and a medieval priory in Langney village. The site falls outside the area covered by the Eastbourne Extensive Urban Survey⁶.
- 1.7** According to the British Geological Survey (sheet 319/334), the site comprises Gault Formation mudstone overlain by Alluvium (Fig. 5). At the roundabout, to the northeast end of the Phase 3 cycleway, the silty peaty sandy clay of the Alluvium is replaced by gravel Storm Beach Deposits. The soil at the site is described as a loamy and clayey soil of the coastal flats, with naturally high groundwater content and lime-rich to moderate fertility⁷.
- 1.8** This report initially covers the objectives and scope of the survey, then discusses the methodology used in the Desk-based Assessment, followed by a review of the archaeological and historical heritage of the area. A field visit was also carried out for both phases of the cycleway. Finally, a conclusion assesses the potential impact of the development.

⁵ <http://www.eastbourne.gov.uk/environment/conservation/conservation-areas/>

⁶ Harris, R. 2008. *Eastbourne Historic Character Assessment Report*. Sussex Extensive Urban Survey.

⁷ <http://www.landis.org.uk/soilscapes/>

2. Objectives and Scope of Report

2.1 The objective of this report is to gain information about the known or potential archaeological resource of the site and its immediate area. This will include information relating to the presence or absence of any archaeology, its character and extent, date, integrity, state of preservation, and the relative quality of the potential archaeological resource. The brief for Phase 2A of the cycleway shall be adopted for Phase 3. It specified the following objectives:

- identification, on the basis of the sources studied, of any archaeological / historic features (including landscape features) within the study area (and agreed surrounding area) and, as far as is reasonably possible, to define their location, extent, date, character, condition, significance and quality;
- assessment of the extent to which previous and existing development and land use will have affected the archaeological resource within the proposed development site;
- assessment of the likely impact of any proposed or possible development works on the known and/or potential archaeological resource; and
- conclusions to inform decision-making regarding a future planning application and to assist in the development of any further archaeological research or evaluation and mitigation works.

2.2 This will allow an assessment of the merit of the archaeology in context to be made, leading to the formulation of a strategy for the recording, preservation and management of the resource or, where necessary, the formulation of a strategy for further investigation where the character and value of the resource is not sufficiently defined to permit a mitigation strategy or other response to be defined.

2.3 The report will consider the archaeological resource within a radius of 1km around the site, whilst also taking into account sites further afield where these may be considered to have an impact or relevance to the site in its landscape setting.

2.4 It should be noted that this report can only take into account the existing known archaeology, and by its nature cannot provide a complete record of the archaeological resource of the site. Its intention is to provide an overview of the known archaeology in the area of the site, from which judgements can be made about the potential archaeological resource of the site itself.

3. Methodology

3.1 This Desk-based Assessment has been prepared in accordance with the requirements of *Planning Policy Statement 5*; its replacement, the *National Planning Policy Framework* (DCLG 2012); the saved policies from 2007 of the *Eastbourne Borough Plan (2001-2011)*; the *Standard and Guidance for Archaeological Desk-based Assessment* (Institute of Field Archaeologists 2001); and the *Standards for Archaeological Fieldwork, Recording and Post Excavation Work in East Sussex* (ESCC 2008). The Archaeology Team at East Sussex County Council (ESCC) prepared a brief for Phase 2 of the Desk-based Assessment⁸. The brief has been adopted for Phase 3 of the development.

3.2 The research for this Desk-based Assessment has included an analysis of the following resources:

- ESCC Historic Environment Record or HER (including the Historic Landscape Characterisation (HLC) results, and grey literature reports)
- PastScape (formerly part of the National Monuments Record or NMR)
- The National Heritage List for England (a list of all nationally designated heritage assets)
- Portable Antiquities Scheme database
- Defence of Britain database
- WIRG iron site database
- NMR aerial photographs
- Aerial Photograph search (Cambridge and Sussex Universities)
- Historic mapping (including that provided with ESCC HER)
- East Sussex Record Office (ESRO)
- Sussex Archaeological Society Library
- Personal and Eastbourne library resources
- British Geological Survey

3.3 The following maps were used:

- Speed (1610)
- Morden (1695)
- Bowen (1756)
- Kitchen (1750 and 1763)
- Yeakell and Gardiner (1778-1783)
- Deed plan of St. Anthony's Hill (1795, but 1862 copy - unknown archive location)
- Deed plan of St. Anthony's Hill (1805, but 1862 copy - unknown archive location)
- Cole (1808)
- Moule (1837)
- Dugdale (1840)
- 1841 Eastbourne Tithe map (ESRO - TD/E/85)

⁸ Archaeology Team, ESCC 2010. *Brief for an archaeological desk based assessment of the proposed Eastbourne cycle route between Ringwood Road and Lottbridge Drive.*

- 1842 Willingdon Tithe Map (ESRO - TD/E56)
- 1st Edition OS Map (1874)
- 2nd Edition OS Map (1899)
- 3rd Edition OS Map (1909)
- 4th Edition OS Map (1928)
- Later OS Maps

Information gained from the map regression exercise is contained in the Post Medieval section below.

- 3.4** The Archaeological Sites and Listed Buildings recorded on the HER are listed in Appendices 1 and 2 to this report, for Phases 2 and 3 respectively, and are mentioned in the text where relevant. The Monuments are shown on Figs. 6 and 7.
- 3.5** For the Phase 2A Desk-based Assessment, a total of 76 vertical photographs were located in a search of the NMR database, of which nine were selected for further analysis, and a single aerial photograph was provided by ESCC.
- 3.6** A walkover survey of the Phase 2 route of the site was undertaken on 7th December 2010, and of Phase 3 route on 30th September 2012. A detailed description of the site is provided in Chapter 5.

4. Archaeological and Historical Background

- 4.0.1 This section considers each archaeological period in turn, reviewing the known archaeological resource of the area, defining its location and extent, character, date, integrity, state of preservation, and quality.
- 4.0.2 Prior to the evaluation and watching brief (see below), no archaeological work had occurred along the route of the cycleway. Indeed, the HER records just one archaeological event (EES9241) to have taken place within the vicinity of the Phase 2 site, and three in the vicinity of the Phase 3 site (EES13948, EES13947 and EES14058). EES9241 records an excavation, carried out by a local archaeological society in the early 1930's, in which a Roman pit (MES516) was discovered to the southeast of the Phase 2A route, adjacent to St Philip's Avenue.
- 4.0.3 The other three interventions were undertaken to the northwest of the Phase 3 cycleway route, on land now under West Langney Lake in West Langney Level. The earliest (EES13948) was an evaluation in 1996, which comprised the machine excavation of 26 trenches on land proposed for development⁹. No archaeological features or artefacts were recorded although the evaluation identified two distinct layers of Willingdon Peat and a large number of former salt march channels. In 2000 (EES14058)¹⁰, and again in 2002 (EES13947)¹¹, watching briefs were maintained during groundworks associated with the construction of a reed bed and / or the extension of the existing lake. No archaeological sites or finds were uncovered during either watching brief. It would, therefore, appear that significant archaeological remains of the Late Bronze Age are concentrated on the Willingdon Levels, to the northwest of the lake.
- 4.0.4 As part of an initial feasibility study for Phase 2A of the cycleway, an archaeological evaluation was undertaken along part of the route in early 2011¹². Three trenches were opened. Trench A was located on the route of a 19th to 20th century railway line, at a crossing point over the Horsey Sewer. Excavations revealed a number of in-situ sleepers and associated track furniture, along with possible evidence for the original bridge spanning the sewer. Trenches B and C were excavated alongside the Horsey Sewer, and no significant archaeological deposits were encountered in either trench. Trench B revealed peat deposits at approximately 1.3m below the ground surface whilst Trench C exposed silty clay with a depth of up to 3m.

⁹ Greatorex, C. 1996. *An Archaeological Evaluation of Land Proposed for Development at West Langney, near Eastbourne, East Sussex*. Archaeology South-East (formerly South Eastern Archaeological Services) Report.

¹⁰ Greatorex, C. 2000. *An Archaeological Watching Brief Conducted During Landscaping Work Undertaken At West Langney, Near Eastbourne, East Sussex*. Archaeology South-East Report.

¹¹ Greatorex, C. 1996. *An Archaeological Watching Brief Maintained on Groundworks at West Langney, near Eastbourne, East Sussex*. Christopher Greatorex Report.

¹² Butler, C. and Meaton, C. 2011. *An Archaeological Evaluation along the route of the Sovereign Harbour Cycle Network Phase 2A (Ringwood Road to Lottbridge Drive)*. CBAS Report.

- 4.0.5 The archaeological watching brief¹³ took place between 14th December 2011 and the 27th January 2012, during excavation to lay a new metalled surface along the Phase 2A cycleway route. Little evidence of the railway was uncovered at either end of the monitored strip, as the ground had been landscaped after the railways removal. In the middle section, the course of the track was discerned as imprints made by the sleepers. Discarded rail furniture and fittings were recovered from the watching brief, together with a range of other late 19th and 20th century artefacts. Findings from the monitoring work suggest that remains of the railway may be present to the west of the Phase 2A cycleway route and to the east of Horsey Sewer.
- 4.0.6 The review of each period will also bring in evidence from a wider area, especially where there is little known archaeological evidence locally. This will enable a more accurate judgement to be made about the archaeological potential of the site. This evidence will include that taken from similar landscapes and geologies.
- 4.0.7 One major factor that affects this area, and therefore the understanding of how the local landscape would have been used in any period, is the state of the Levels. During different periods this area of low-lying land may have been permanently flooded, tidally inundated or marshy ground until permanently reclaimed in the medieval period. Where such information is known it is discussed in each relevant period.

4.1 *Palaeolithic Period (750,000BC – 10,000BC)*

- 4.1.1 This period covers a huge expanse of time, during which early hominid occupation of Southern Britain was intermittent. The period is divided into warm and cold periods, with the evidence suggesting that hominid occupation occurred during some of the warm periods. Apart from a small number of exceptional sites (e.g. Boxgrove), most of the evidence for human activity in this period comes from isolated finds of stone tools, often in secondary deposits.
- 4.1.2 A single Acheulian handaxe was found at Lottbridge Drove (MES507). Most local Palaeolithic flintwork comes from the South Downs, with the nearest find spots being sited in the Cuckmere Valley¹⁴. The isolated find at Lottbridge Drove is from an unusual location, and is probably not in its original context.
- 4.1.3 The likely potential for in-situ Palaeolithic archaeology being present on the site is considered to be low.

¹³ Bradshaw, A. 2012. *An Archaeological Watching Brief on the route of the Sovereign Harbour Cycleway Network, Phase 2A, (Ringwood Road to Lottbridge Drove)*. CBAS Report.

¹⁴ Wymer, J. 1999. *The Lower Palaeolithic Occupation of Britain, Vol.1*. Wessex Archaeology and English Heritage.

4.2 *Mesolithic Period (10,000BC – 4,000BC)*

- 4.2.1 The start of the Mesolithic period saw Britain largely covered by pine and birch woodland, which was gradually replaced by a mixed deciduous woodland that provided an ideal environment for the bands of hunter-gatherers who exploited the resources on a seasonal basis¹⁵. The Pevensey Levels, together with the other adjacent Levels, were above sea level during the Mesolithic period, and have subsequently been covered with an accumulation of peat¹⁶.
- 4.2.2 There is no evidence for Mesolithic activity in the immediate vicinity of the site. However, there are numerous find spots of Mesolithic flintwork around the edges of the Pevensey Levels (Fig. 8), just above where the peat horizon stopped encroaching at the 5m contour line. For instance, a tranchet axe was found at Hankham on the southwest side of the Pevensey Levels¹⁷. Other Mesolithic flintwork has also been recorded from Hankham (MES5042 and MES5051). Tranchet axe-sharpening flakes, cores, debitage, scrappers and microliths were recovered amongst other Mesolithic material to the southeast of Hackam, between Westham and Pevensey¹⁸. The distribution of the finds may indicate that the Levels provided an ideal landscape for hunting and fishing throughout the Mesolithic period¹⁹.
- 4.2.3 Lying at a height of between 3m and 5m OD, the Phase 2 cycleway route would have largely clung to the fringes of the Levels (Fig. 8), whereas the lower-lying Phase 3 site would have actually been situated within the marshy Levels. Given the implications of site location, with reference to the Pevensey Levels, there is a medium possibility that Mesolithic activity took place along the Phase 2 site. The possibility will be low, however, for the Phase 3 route.

4.3 *Neolithic Period (4,000BC to 2,500BC)*

- 4.3.1 A number of changes occurred during the Neolithic, some of which may have had an impact on the local area. Environmental evidence suggests that some woodland was being cleared, and small-scale agricultural activities are likely to have started. However, the scatters of Neolithic flintwork and the individual finds of Neolithic axes²⁰ suggest that activity, probably associated with hunting and fishing, continued around the edges of the marshy Levels during this period.

¹⁵ Holgate, R. 2003. 'Late Glacial and Post-glacial Hunter-gatherers in Sussex', in Rudling, D. (Ed) *The Archaeology of Sussex to AD2000*. Kings Lynn: Heritage Marketing and Publications Ltd, 29-38.

¹⁶ Butler, C. 2002. 'A Mesolithic site and later finds at Magham Down, near Hailsham, East Sussex', *Sussex Archaeological Collections* **140**, 139-144.

¹⁷ Wymer, J.J. 1977. *Gazetteer of Mesolithic sites in England and Wales*. CBA Research Report **22**.

¹⁸ Burton, C.E.C-H. 1940. 'Mesolithic and Bronze Age Flints at Westham, Pevensey', *SN&Q* **8**, 43-44.

¹⁹ Butler, C. 2002. 'A Mesolithic site and later finds at Magham Down, near Hailsham, East Sussex', *Sussex Archaeological Collections* **140**, 139-144.

²⁰ Butler, C. 2002. 'A Mesolithic site and later finds at Magham Down, near Hailsham, East Sussex', *Sussex Archaeological Collections* **140**, 139-144.

4.3.2 Other changes in the earlier part of the Neolithic period include the construction of large-scale monuments. The closest such site is the causewayed enclosure located at Combe Hill on the South Downs above Willingdon. It would have looked out across the Levels, and may have exerted an influence over this area²¹.

4.3.3 The likelihood of finding Neolithic sites is considered to be medium for the Phase 2 cycleway route but low for the Phase 3 site, given their different setting. There is also a medium possibility that Neolithic artefacts could be present within the Phase 2 site.

4.4 *The Bronze Age (2500BC to 800BC)*

4.4.1 The Bronze Age saw continued clearance of the woodland in the adjacent Weald and Downland landscapes, although there is little evidence for complete clearance or widespread agriculture. The period of greatest exploitation appears to have been in the Late Neolithic and Early Bronze Age, which may suggest that the soils became exhausted and settlement retreated subsequently²². Elsewhere in Sussex, such as the South Downs and Coastal Plain, there is extensive evidence for the landscape having been densely populated by small farming settlements in the Middle and Late Bronze Age.

4.4.2 Although there is growing evidence for agriculture in the neighbouring Weald and Downland landscapes during the Bronze Age, the evidence is that the Levels continued to be used for hunting and fishing, although the peat had begun to accumulate during this period²³, perhaps allowing greater access into the area.

4.4.3 In 1995, a Late Bronze Age timber platform and associated trackway (MES7375) were discovered on Shinewater Marsh a short distance to the northwest of the Phase 3 cycleway route. Copper-alloy artefacts, pottery, and worked and burnt flint were recovered during the limited excavations²⁴. This and other trackways / causeways (MES15463 and MES16119) hint at extensive Late Bronze Age activity on the Willingdon Levels. This activity does not appear however to have extended onto the adjacent site at West Langney Lake as no archaeological features or artefacts were recorded here during an evaluation and two later watching briefs (EES13948, EES14058 and EES13947; see para. 4.0.3).

²¹ Oswald et al. 2001. *The Creation of Monuments*. Swindon: English Heritage.

²² Needham, S. 1987. 'The Bronze Age' in *The Archaeology of Surrey to 1540*, 97-137 Guildford, Surrey Archaeological Society.

²³ Woodcock, A. 2003. 'The Archaeological implications of Coastal Change in Sussex', in Rudling, D. (Ed) *The Archaeology of Sussex to AD2000*. Heritage Marketing and Publications Ltd.

²⁴ Greatorex, C. 2003. 'Living on the Margins? The Late Bronze Age Landscape of the Willingdon Levels' in Rudling, D. (Ed) *The Archaeology of Sussex to AD2000*. Heritage Marketing and Publications Ltd.

4.4.4 A Bronze Age stone macehead (MES621) was found at Bedford Well Waterworks close to the southwest end of the Phase 2 site, on the edge of the Levels. It may have been ritually deposited.

4.4.5 Given the evidence for Bronze Age activity associated with the Levels, there is a medium possibility that Bronze Age sites or finds may be found along the cycleway route. These could be well preserved within the waterlogged peat deposits expected to be present along the Phase 3 site.

4.5 *The Iron Age (800BC to 43AD)*

4.5.1 During the Early Iron Age it seems likely that the Levels had become untenable due to flooding from the sea²⁵. This may have led to a decrease in activity in the area or more probably a retreat to the higher ground again.

4.5.2 One major feature of the Iron Age is the hillfort, of which 25 are known from Sussex. Many of these also appear to have originated in the Late Bronze Age, with some having become important centres of control and redistribution in the Middle and Late Iron Age. It seems unlikely that the sphere of influence of any Sussex hillfort extended to the area of the Levels.

4.5.3 No Iron Age finds have been recovered close to the site, which would imply that there is a low or very low likelihood of encountering evidence for Iron Age settlement or activity along the cycleway route.

4.6 *The Roman Period (43AD to 410AD)*

4.6.1 The Roman invasion of Britain in 43AD resulted in dramatic changes to this island's social and economic environments²⁶. It is likely that many of the rural farmsteads and associated field systems that were in existence in the Late Iron Age continued throughout the Roman period. Where they have been excavated elsewhere, they provide evidence for a mixed farming economy of crops and animal husbandry.

4.6.2 Villa's are unknown in the area, being almost entirely concentrated on the Sussex Coastal Plain and to the immediate north of the South Downs; the closest Roman villa to the site is in Eastbourne. There is also little evidence for any larger Roman

²⁵ Greatorex, C. 2003. 'Living on the margins? The Late Bronze Age Landscape of the Willingdon Levels', in Rudling, D (Ed) *The Archaeology of Sussex to AD2000*. Kings Lynn: Heritage Marketing and Publications Ltd.

²⁶ Rudling, D. 2003. 'Roman Rural Settlement in Sussex: Continuity and Change', in Rudling, D. (Ed) *The Archaeology of Sussex to AD2000*. Kings Lynn: Heritage Marketing and Publications Ltd.

settlements, although recent work by HAARG at Kitchenham Farm, Ashburnham, to the northeast of the Levels, has suggested the presence of a large settlement²⁷.

- 4.6.3 The coastline in the Roman period was very much different from today. The large Saxon Shore Fort at Pevensey was built in the late 3rd century AD, on a peninsular that jutted out into the sea and may have provided shelter for a harbour on its protected north side (Fig. 9). By at least c.340AD, the Phase 2 site would have largely skirted the shoreline whilst the Phase 3 site would have extended into the sea (Fig. 9). A deep clay-lined pit (MES516) containing Roman pottery was found just to the south of the Phase 2 site during roadworks in Roselands in 1929. The presence of this possible waterhole indicates that there may have been a coastal Roman settlement nearby.
- 4.6.4 There is limited evidence for Roman activity in the immediate area of the site but the presence of the pit suggests that there is a medium possibility of encountering Roman remains along the Phase 2 route of the cycleway. The potential for the Phase 3 site is very low, however, on considering that it would have been fully submerged under the sea for some if not all of the Roman period.

4.7 *The Saxon Period (410AD to 1066AD)*

- 4.7.1 In the early Post-Roman period there was a change in the economy and land-usage, with many areas previously cultivated having reverted to woodland, although the adjacent Weald remained an important area of grazing for pigs and other animals²⁸.
- 4.7.2 A Saxon Charter, dating to 947, relates to land at West Hankham and Glynleigh, located some distance to the north of the site, which was given by King Eadred to Edmund²⁹. The Charter describes the location of the manor being granted and includes a reference to saltpans. King Edward held Eastbourne before 1066, whilst Earl Godwin held Willingdon³⁰. Few people are likely to have lived in the area of the site during the Saxon period, as most of the Phase 2A cycleway route was still marginal land at this time whilst the Phase 3 site may again have lain under water. Therefore, the Phase 2 site has a low likelihood of containing evidence for Saxon activity and the Phase 3 site an even lower likelihood.

²⁷ Cornwall, K. and L. 2007. 'A Roman site on Kitchenham Farm, Ashburnham - First Interim Report', *HAARG Journal*.

²⁸ Gardiner, M. 1990. 'The Archaeology of the Weald - A Survey and a Review', *Sussex Archaeological Collections* **128**, 33-53.

²⁹ Barker, E.E. 1949. 'Sussex Anglo-Saxon Charters Part III', *Sussex Archaeological Collections* **88**, 51-113.

³⁰ Morris, J. (Ed.) 1976. *Domesday Book: Sussex*. Chichester: Phillimore.

4.8 *The Medieval Period (1066AD to 1500AD)*

- 4.8.1 After 1066, the Manors of Eastbourne and Willingdon were granted to the Count of Mortain. Eastbourne had land for 28 ploughs, 25 acres of meadow, a mill and 16 salthouses, whilst Willingdon had land for 36 ploughs, 60 acres of meadow, woodland for three pigs and 11 salthouses³¹. The salthouses are likely to have been situated around the edges of the Levels, and indicate the importance of this industry to the area. Langney, sited to the immediate north of the Phase 3 cycleway route, was small having been inhabited by just four smallholders after the Conquest³². Ranulf and William held it from the Count.
- 4.8.2 There were a number of medieval settlements in the wider area which have not survived, such as Cudnow (MES5053) and Hydneye (MES517) to the north of the site. The latter was a port attached to Hastings although there is practically no significant documentary evidence of it and the site has been built over by housing development since 1940³³. Turner maintained that the earliest reference was a deed of 1229, with further mentions in charters throughout the period 1235-1260 and 1308³⁴. There was probably a small harbour at Hydneye, which silted up in the period 1250-1350 depriving the community of its livelihood. This suggests that this land was still marginal, reflecting the risk from flooding and difficulties in reclaiming the land³⁵.
- 4.8.3 Much of the Levels were reclaimed by the 13th century³⁶. To the north, Hankham Level was divided into portions drained by Martins Gut and Hankham Gut, although the area was inundated in the 15th century. A conveyance of 1306 refers to land called 'Est Tunge' at Glenleigh that was enclosed with ditches³⁷. There are again references to saltpans, suggesting that this industry was still being carried out around the margins of the Levels³⁸.
- 4.8.4 The remains of a possible 12th-14th century trading vessel (MES504) were found during sewer laying operations in 1963 at the Lottbridge Drove / Seaside roundabout, southeast of where the Phase 3 cycleway route begins. Its presence suggests that this location was on the edge of the navigable waters.

³¹ Morris, J. (Ed.) 1976. *Domesday Book: Sussex*. Chichester: Phillimore.

³² *Ibid.*

³³ Burleigh, G.R. 1973. 'An Introduction to Deserted Medieval Villages in East Sussex', *Sussex Archaeological Collections* **111**, 45-83.

³⁴ Turner, E. 1867. 'The Lost Towns of Northeye and Hydneye', *Sussex Archaeological Collections* **19**, 1-35.

³⁵ Dulley, A.J.F. 1966. 'The Level and Port of Pevensy in the Middle Ages', *Sussex Archaeological Collections* **104**, 26-45.

³⁶ Salzmann, L.F. 1910. 'The Inning of Pevensy Levels', *Sussex Archaeological Collections* **53**, 33-60.

³⁷ ESRO (AMS279)

³⁸ Salzmann, L.F. 1910. 'The Inning of Pevensy Levels', *Sussex Archaeological Collections* **53**, 33-60.

- 4.8.5 The Cluniacs established a monastic grange (MES514) at Langney sometime prior to 1121, which was dependent on the Priory of St Pancras in Lewes. Parts of the chapel, refectory and dormitory from the grange survive in the house of Langney Priory (MES514; Grade II* Listed), which was built in the 16th century. A medieval lead weight (MES15146) was found in the flowerbeds of Langney Priory in about 2009. The site of a medieval watermill (MES7019) associated with the monastery is unknown but probably stood nearby on marginal land. It was built in the 1160's and may have ceased working during the 13th-14th centuries as a result of land reclamation.
- 4.8.6 The entire site may have fallen within the area exploited, managed or farmed by the monks. Prior to land reclamation, the Phase 3 cycleway route and the north end of the Phase 2 site may have been submerged under water for parts of the year. This section of the cycleway may contain evidence of medieval land reclamation, such as the ditches and embankments of sea defences, or even earlier medieval features and finds relating to the use of the area when it was marshland, if that. Such uses may include fishing, trapping and transportation by boat. Its different setting, on peripheral land prior to reclamation, may mean that most of the Phase 2A cycleway route could contain a different assortment of medieval remains, such as those associated with salt working for instance.

4.9 *The Post Medieval Period (1500AD to the Present Day)*

- 4.9.1 There is little evidence for the Post Medieval use of the area until the 19th century. A letter by Henry VIII³⁹, dated 12th July 1509, commissions the prior of St Pancras monastery, amongst others, to construct sewers through various areas including 'through the marsh of Wellyngdon and Moryngesmyll to Langneygotte, and thence to sea'. Langney Gate is located close to the Phase 3 cycleway route, at the junction between Langney Rise (the B2104) and the Sevenoaks Road. Today, Willingdon and West Langney Sewer and Langney Sewer meet a short distance to the west of Langney Gate, to flow past it as the one sewer.
- 4.9.2 A lease of 1682⁴⁰ includes meadow of 4½ acres, which is part of the Totts near Lottbridge Drove, together with pieces of marshland. The presence of Lottbridge Drove, which separates the two phases of the cycleway route, may suggest that it was used to move livestock northwest-southeast through the Levels, between areas of grazing. The drove is likely to have originated at an earlier date, however.
- 4.9.3 Speed's map of Sussex, dated 1610 (not reproduced), shows a large 'Cronble Pond' directly to the south of Langney, with a large expanse of 'Beach' beside the coastline jutting out into Pevensey Haven. Morden's map of the county (not reproduced) shows a similar situation in 1695. Bowen's map of 1756 is comparable but less detailed, and

³⁹ <http://www.british-history.ac.uk/report.aspx?compid=102620>

⁴⁰ ESRO ASH/4501/1083

does not show the beach. The maps of Kitchen (1750), Cole (1808), Moule (1837) and Dugdale (1840) are not sufficiently detailed to show anything of interest.

- 4.9.4 Greater detail of the area is shown in Yeakell and Gardiner's map of 1778-1783⁴¹ (Fig. 10). Lottbridge Drove runs northwest from the beach with its Crumble Pond, through land parcelled into fields by ditches. The plan of the drainage system is considerably accurate on the map, with Willingdon and West Langney Sewer, Langney Sewer and Willingdon Sewer being clearly identifiable, for example, along with the smaller drains between them. Unlike today, the Horsey Sewer along the Phase 2 cycleway route turns southeast towards the sea before reaching Lottbridge Drove. The main drain alongside the Phase 3 cycle path is not as straight as it is today and with another ditch, forms a short driveway onto Lottbridge Drove located outside the site boundary. The other drain alongside the Phase 3 cycleway curves around the west side of St. Anthony's Hill (shown on the map as a topographical feature) and is as seen today. It feeds into the Crumble Pond and is known today as the Crumble Sewer. The last stretch of the Phase 3 cycleway route runs through two ditch-defined fields, which are the same fields present today.
- 4.9.5 The coastline between Eastbourne and Pevensey was defended during the Napoleonic Wars of the early 19th century by the construction of Martello Towers⁴² (e.g. MES512 for Towers 69-72 between Eastbourne and Langney Point, and MES513 / MES7994 for Tower 68 which stood slightly inland of Langney Point, on St. Anthony's Hill).
- 4.9.6 A deed plan of St. Anthony's Hill, dated 24 June 1795 (see Fig. 11 for a copy from 1862⁴³), shows the five acres of land that the government took possession of on that day 'for the purpose of supplying castle for two batteries erecting on Langley Point and for the establishment of a small fort to protect the rear of the said batteries.' The plan depicts the surrounding drainage ditches as they are today, except for an additional ditch to the south side of the hill. It shows the stretch of the Phase 3 cycleway route northeast of today's industrial estate. The only field with a complete plan is the narrow field to the north of the hill, which had two field entrances or causeways centrally located to either end.
- 4.9.7 A second deed plan of the hill, dating from 1805 (see Fig. 12 for a copy dated 1862⁴⁴), details the land purchased by the government from the late Mr Medley in '1793' and the surrounding five acres or so of land that the government intended to buy. Mrs Medley owned the land directly beyond this, through which the Phase 3 cycleway route runs. Mr John Goringe occupied the land to the northeast, which was to be fenced off from the government land.

⁴¹ <http://www.envf.port.ac.uk/geo/research/historical/webmap/sussexmap/Yeakelllarge36.htm>

⁴² Butler, C. 2007. *East Sussex under Attack*. Stroud: Tempus Publishing.

⁴³ <http://sussexhistoryforum.co.uk/index.php?topic=1669.0>

⁴⁴ <http://sussexhistoryforum.co.uk/index.php?topic=1669.0>

- 4.9.8 Other Napoleonic defences comprised the re-arming of the existing forts at Langney, as well as the building of a redoubt at Eastbourne. The Ordnance Survey draft of 1813⁴⁵ shows two buildings (MES7955) sited to the rear of Tower 69 (MES512) on Langney Point. These have previously been interpreted as possible guardhouses but the information recorded on the plan of 1795 (Fig. 11) may instead suggest that they were the batteries of West Langney Fort. The Ordnance Survey draft also depicts a battery (MES7949) beside Langney Gate and barracks (such as MES7947) along both the coast road (Seaside / the A259) and Lottbridge Drove. A series of lanes are shown on the map to lead into the Bourne Levels from the west, and were presumably used to move stock into and out of the area. A sluice house (MES7933) is plotted on the map at Langney Gate, and this would have regulated the water level of the sewer.
- 4.9.9 A map of Eastbourne⁴⁶, published in 1819 (Fig. 13), shows the area to the east of Eastbourne up to Lottbridge Drove, and probably beyond, as 'Pasture Fields'. The Crumble Sewer is seen to flow past the Martello Tower on St. Anthony's Hill (MES513 / MES7994); these features, together with Langney Gate and Lottbridge Drove, help to locate the route of the Phase 3 cycleway more accurately than the Phase 2 cycleway. To the southeast is the loose shingle of the Crumbles, with the redoubt, West Langney Fort and five Martello Towers (Nos. 67 and 69-72). A draft of c.1820 (not reproduced) shows fields called Great Horsey, Little Horsey and Jordans Field on the Willingdon to Ditton road, amongst others in Willingdon including tenantry land⁴⁷. However, it is unclear as to whether these fields relate to those in the area of the site.
- 4.9.10 The first indications of land ownership for the Phase 2 cycleway route come from the Tithe maps. The Eastbourne Tithe map of 1841 (Fig. 14) shows that the fields to the south of the Horsey Sewer were owned by Lord Cavendish and Lord Burlington, mostly leased by Benjamin Waters and used for pasture. The Willingdon Tithe map of 1842 (Fig. 15) shows the fields to the north of the sewer to have been mainly owned by Lord Burlington and Lord Liverpool, leased to John Waters and James Pagden, and again in use as pasture. As the Phase 3 cycleway route would have also crossed the Levels at this time, it too is unlikely to have been anything other than pasture.
- 4.9.11 The 1st Edition OS map of 1874 (Fig. 16) shows significant changes to have taken place to the landscape surrounding the Phase 2 cycleway route. Although the Horsey Sewer is shown within a field system that broadly reflects that seen on the early maps, a tramway now runs along its length. It crosses the sewer at three places, to run past the Eastbourne Gas Works and on to the Crumbles, with a single track branching off into the gasworks. To the immediate southeast is Horsey Farm, and then further southeast are 'Rose Lands' and a brickfields.

⁴⁵ Timeline Historical Map **199**

⁴⁶ Elleray, D.R. 1995. *Eastbourne A Pictorial History*. Phillimore (map possibly drawn by W. Figg in 1816)

⁴⁷ ESRO ACC3412/3/81

- 4.9.12 The tramway served the beach gravel extraction on the Crumbles, and can be seen on the broader OS map to extend onto the beach before dividing into three separate branches; the gravel pits on the beach are recorded as MES7969-MES7971. In 1857-1862, the London Brighton and South East Railway negotiated with the Duke of Devonshire to purchase not less than 48,000 cubic yards of shingle from the Crumbles, at 1 penny per cubic yard⁴⁸. They constructed a railway close to Eastbourne railway station, which ran through open countryside and along the Horsey Sewer, to turn south to cross the turnpike road (Seaside) near the junction with Lottbridge Drove. The railway was 6.4m wide and ran for 5.6km. It was known as the Ballast Line or the Crumbles Railway, and served the gasworks from 1870 onwards. In 1874, the Crumbles were also used for firing practice (firing ranges MES7961 and MES7962).
- 4.9.13 The Eastbourne Gas Company was formed in 1852⁴⁹, and was incorporated by an Act of Parliament in 1868⁵⁰, whilst the brickworks was in existence by 1866, and was operated by James Peerless, who leased the land from the Devonshire Estate in 1860⁵¹. It continued to operate there until 1899. A smaller brickworks was located at Rose Lands, and was operated from 1860 to the 1880's by the Eastbourne Brick Co. Ltd⁵².
- 4.9.14 In contrast, little change had taken place by 1875-1880 along the Phase 3 cycleway route (see Fig. 16 for the 1st Edition OS map). A footpath led through the short driveway, having come through the fields to the northwest. Further northeast along the Phase 3 route, two causeways, each in a different field, gave entry to the same field to the southeast. A drainage channel had been excavated beside the Crumble Sewer, to define a small rectangular plot, possibly a holding pen, directly outside the site boundary. At the north end of this new plot, a footbridge now provided access across the sewer and into the field to the northeast. From here, an adjacent causeway, rather than the previous central causeway, led southeast into the narrow field north of St. Anthony's Hill. The only building nearby was 'The Lodge', a public house on the coast road, south of the hill.
- 4.9.15 The gasworks had expanded eastwards by the 2nd Edition OS map of 1899 (Fig. 17); ESRO holds a plan of the land intended to be acquired for this expansion, which was drawn in 1879 by H.E. Jones, the Engineer for Eastbourne Gas⁵³. The main brickworks had migrated northeast, with allotment gardens having been established along the northern edge of the earlier workings. Rose Lands was a nursery by this time, with a refuse destructor works and air compressing station located on its north side.

⁴⁸ Botha, A. 2006. *The Crumbles Story*. Eastbourne: ALB Books

⁴⁹ Wright, J.C. 1902. *Bygone Eastbourne*. Spottiswood and Co. Ltd.

⁵⁰ ESRO amsh/AMS5616/2/70

⁵¹ Beswick, M. 2001. *Brickmaking in Sussex*. Middleton Press.

⁵² *Ibid.*

⁵³ ESRO QDP/448

- 4.9.16 The tramway now had additional sidings serving the gasworks. It continued onto the Crumbles, where it ran to the east, while a branch turned southwest before returning westwards to Seaside on an existing earthwork (MES7968) shown on the 1st Edition OS map. Housing development had expanded northeast along the southeast side of Seaside. The tramway also later served the refuse destructor works and air compressing station, the brickworks and a timber yard.
- 4.9.17 The Phase 3 cycleway route remained unaltered between 1875-1880 and 1899 (see Fig. 17 for the 2nd Edition OS map). The footbridge had gone. The possible animal pen on St Anthony's Hill now looks to have been defined by a fence line rather than by ditches, and a second larger such enclosure had been erected in the same former field, on the south side of the hill.
- 4.9.18 The Martello Towers (MES512 and MES513 / MES7994) on this stretch of coastline all disappeared in the late 19th or early 20th century. Tower 71 was demolished after having been used as target practice for the testing of the new rifled Armstrong Guns in 1860⁵⁴. Tower 72 had been washed away by the sea sometime prior to 1872⁵⁵, as had West Langney Fort. Tower 70 had likewise been undermined by the sea and was abandoned in 1872 along with Tower 69. Tower 67 was demolished in 1922, whilst Tower 68 was knocked down in c.1925 to make way for residential development (however, see para. 4.9.28).
- 4.9.19 The 3rd Edition OS map of 1909 (Fig. 18) shows little change to the immediate area around the Phase 2 site, although there had been further housing development along Seaside. A long narrow plot of land was now fenced off along one side of a field, to form a passageway presumably for the movement of livestock between two fields, including the narrow field to the east in which the cycleway runs through. The Martello Tower on St. Anthony's Hill (MES513 / MES7994) is marked on the map, along with its moat and footbridge; its absence from the 1st or 2nd Edition OS map is somewhat odd, although military installations were often omitted from OS maps for security purposes.
- 4.9.20 During the First World War, a temporary tented camp was set up at Horsey Bank, in the area of the junction of Churchdale Road and Astaire Avenue⁵⁶. The allotment gardens shown on the 2nd and 3rd Edition OS maps (Figs. 17 and 18) were put to good use during these years, although it is recorded that the Eastbourne Gas Company refused a request to plough up land for allotments, but a compulsion order overturned this⁵⁷.

⁵⁴ http://sussexhistoryforum.co.uk/index.php?topic=1669.0;prev_next=next#new

⁵⁵ <http://www.martello-towers.co.uk/south-coast/towers>

⁵⁶ Elliston, R.A. 1999. *Eastbourne's Great War 1914-1918*. Seaford: S.B. Publications.

⁵⁷ *Ibid.*

- 4.9.21 From December 1911, Eastbourne Aviation Company Ltd had their manufacturing aerodrome (MES7491) at a site directly to the north of Lottbridge Drove⁵⁸. From about this time, this site also became the school aerodrome for the Eastbourne Aviation School and the Fowler Flying School. A map of the airfield⁵⁹ (Fig. 20) shows the middle stretch of the Phase 3 cycleway route to have been located within Fowler's original 50 acre airfield.
- 4.9.22 In August 1914, the hangars and buildings of the aerodrome were taken over by the Royal Navy Air Service⁶⁰. The aerodrome at St. Anthony's was a RNAS flying school from April 1915 to April 1918, when it became a training depot station for the RAF until 1919. In November 1918, the RAF airfield comprised 242 acres, having predominantly expanded northwest across the Levels (Fig. 20). Almost the full route of the Phase 3 cycleway now stood within the airfield, except for the last stretch through the two fields at the northeast end. With the exception of one area, the buildings, which included a large hangar (MES7990) and the engine sheds, were built around the Martello Tower (MES513 / MES7994) and therefore outside the site boundary. The 15 Bessoneaux hangars were erected in three rows, with two rows having stood opposite each other to the northwest of what is now Birch Road, and the third row having stood along the south side of what is now Leeds Avenue, directly south of St. Anthony's Hill. During the Phase 2A watching brief an identity disc was found. It is engraved R.N.A.S. / TURNER / ERNEST / EDWARD / A M / F364/ CCE. Ernest Edward Turner is recorded as having been born in 1894 in Bangalore, India, and entered the RNAS in 1914⁶¹; it is presumed that he served at St Anthony's.
- 4.9.23 The aerodrome was licensed for civilian use again in April 1920⁶² and finally closed in 1925. The only remaining structure of the aerodrome is a guardroom (MES7991) from the RNAS phase of use, which is now a bungalow on Leeds Avenue. The large hangar (MES7990) stood extant nearby until the storm in 1987; its foundations are still visible today.
- 4.9.24 A site on the Crumbles, in the region of the present day Sovereign Centre, was used by the Eastbourne Aviation Company as a seaplane factory, and also for the refuelling and servicing of patrolling seaplanes⁶³. The hangars on the Crumbles were converted to an aircraft factory, and during the war the Eastbourne Aviation Company built a total of 252 aircraft.

⁵⁸ CCI Gazetteer of Flying Sites

⁵⁹ McMahan, L. and Partridge, M. 2000. *A History of the Eastbourne Aviation Company 1911-1924*. Eastbourne Local History Society.

⁶⁰ CCI Gazetteer of Flying Sites

⁶¹ National Archives ADM 188/1175

⁶² *Ibid.*

⁶³ McMahan, L. and Partridge, M. 2000. *A History of the Eastbourne Aviation Company 1911-1924*. Eastbourne Local History Society.

- 4.9.25 By the 4th Edition OS map of 1928 (Fig. 19), the tramway has developed to include a branch line to the refuse destructor works and air compressing station, and additional sidings at the gasworks. The return route of the tramway to Seaside from the Crumbles had been dismantled by this time. Some ‘tanks’ are shown adjacent to the Horsey Sewer, north of the gasworks and alongside a footbridge. Major housing development had taken place to the southeast of the Phase 2 cycleway route, along the northwest side of Seaside. Eastbourne Corporation had a licence to place a footbridge over the Horsey Sewer in 1926⁶⁴, and had an agreement for works in the Horsey Sewer in 1937⁶⁵.
- 4.9.26 The decline of the tramway began in 1920 when the ballast used on the railways changed to granite chippings and there was no further requirement for the shingle. Shingle continued to be taken to the Duke of Devonshire’s depots at Eastbourne Station to be used for building purposes until 1931⁶⁶. The shingle beds at the Crumbles were leased to Hall and Co.⁶⁷ who then began to use lorries to move the shingle, stopping rail movements completely in 1932. The tramway continued to serve the gasworks and other industrial sidings, taking thousands of tons of coal to the gasworks (Fig. 21)⁶⁸.
- 4.9.27 The land around the Phase 3 cycleway route looked little different in 1925-1930 from what it had done in 1910 (see Fig. 20 and the 4th Edition OS map of Fig. 19 for a comparison), revealing how easily the land had reverted to pasture after its use as an airfield. A number of buildings from the aerodrome still stood, including the engine sheds as well as the guardroom (MES7991) and large hangar (MES7990). A sluice is shown across the Crumble Sewer, south of the former hangar. A crossing across the sewer was now sited where the footbridge once was; it is the location of a bridge today, although it was not identified as such on this OS map. The crossing led into a small enclosure, once part of a larger enclosure, which linked up with the field to the east.
- 4.9.28 Residential housing had been built on the east side of St. Anthony’s Hill, and below it along Seaside. Both the inner and outer circular roads of The Circus and Rotunda Road had been laid out around the hill, although neither was specifically named as such at this time. The Circus was built around the in-filled moat of Tower 68⁶⁹, whilst Rotunda Road may have traced the boundary of land first purchased by the government in 1795. The single building at the centre of the housing development, within The Circus, may incorporate the base of the Martello Tower (MES513 / MES7994) in its cellar⁷⁰. Allotment gardens had been planted directly south of St. Anthony’s Hill and beside the Phase 3 cycleway route on Lottbridge Drive.

⁶⁴ ESRO SRA7/15/33

⁶⁵ ESRO SRA4/6/16

⁶⁶ Botha, A. 2006. *The Crumbles Story*. Eastbourne: ALB Books.

⁶⁷ <http://www.cambrianmodels.co.uk/eastsxng.html> (Gazetteer of Narrow Gauge Railways in East Sussex)

⁶⁸ Botha, A. 2006. *The Crumbles Story*. Eastbourne: ALB Books.

⁶⁹ Butler, C. 2007. *East Sussex Under Attack*. Stroud: Tempus Publishing.

⁷⁰ *Ibid.*

- 4.9.29 During the Second World War the coastline was put into a state of defence with anti-tank cubes, walls and ditches (e.g. MES7997), minefields (e.g. MES8007) and scaffolding located on the beach, and other defences such as pillboxes positioned to the rear (e.g. MES7999, MES8017 and MES8018)⁷¹. Unexploded bombs fell in allotments near Lottbridge Drove on 14th September 1940, while the gasworks was attacked on the 19th October, setting alight the Number Three gasholder⁷². On 12th March 1941 eight bombs were dropped to the south of the Phase 2 site around Churchdale and Southbourne Roads, and on the following night bombs were dropped to the north of the gasworks. On the 26th August 1942, a German FW190 fighter-bomber was shot down and crashed into a ditch beside Lottbridge Drove. Further bombs were dropped on open ground near the gasworks as well as on the Crumbles on 6th June 1943. On considering its location in the Levels, further out of town, no bombs are known to have fallen in the area of the Phase 3 cycleway route⁷³.
- 4.9.30 A 1947 aerial photograph (Fig. 22) shows residential development to have extended almost as far north as the Horsey Sewer. By the early 1960's (modern OS maps are not reproduced), the housing developments had reached the southern edge of the sewer, and the tramway is still shown. In the locality of the Phase 3 cycleway route, further residential development had occurred on and around St. Anthony's Hill, and had expanded out onto the Crumble along Wallis Road and around the adjacent crescent. Between 1947 and 1961, the Horsey Sewer was straightened to the north of the gasworks, cutting off the former driveway onto Lottbridge Drove. Three new causeways had been constructed along the course of the Phase 3 cycleway.
- 4.9.31 The tramway had gone by the time of the 1975 OS map, as it had finally closed in 1966⁷⁴. The 1975 map also shows the commercial developments at the southeast end of Lottbridge Drove. One or two buildings appear to have stood at the northeast end of the Phase 3 cycleway route, facing onto the road north of the roundabout, which had been built by then; these buildings were demolished by 1992. The commercial developments had extended beyond the Horsey Sewer, along both sides of Lottbridge Drove by the 1981 OS map. This map also shows new housing developments along the north side of the Horsey Sewer.

⁷¹ Butler, C. 2007. *East Sussex Under Attack*. Stroud: Tempus Publishing.

⁷² Humphrey, G. 1998. *Eastbourne at War*. Seaford: S.B. Publications.

⁷³ *Ibid.*

⁷⁴ Botha, A. 2006. *The Crumbles Story*. Eastbourne: ALB Books.

5. Site Visit

5.0.1 The site has been visited twice. The route of the Phase 2 cycleway was walked in good weather conditions on the 7th December 2010, whilst the route of the Phase 3 cycleway was walked on the 30th September 2012. The weather during the second site visit was overcast, and the ground was slightly damp in places from a prolonged deluge a few days before.

5.0.2 During both site visits, observations were made of the ground, surrounding landscape and any potential archaeological features and structures that were present (Figs 23-25). A photographic record was also taken, and will be retained in the project archive.

5.1 The Phase 2 Cycleway

5.1.1 The walk of the Phase 2 cycleway began at the northeast end at Lottbridge Drove and ended at the southwest end at Ringwood Road. Figs. 23 and 24 show the location of the features mentioned in the text.

5.1.2 The north bank of the Horsey Sewer at Lottbridge Drove is open, but slopes gently down to the watercourse before dropping a further 1m into the Sewer. Hammonds Drive runs along the north side of the Sewer. The south bank here is covered with reeds. The sewer is crossed by a road bridge from Hammonds Road into the industrial area to the south of the sewer. A path then follows the north bank of the Horsey Sewer westwards from Hammonds Road.

5.1.3 A short distance further on is a small disused brick-built culvert bridge across the Sewer. A footbridge is shown on the early OS maps in a similar location, but as is noted below the course of the sewer here has been changed between 1928 and 1962 so it is not clear whether the bridge surviving today is the same as that shown on the early maps. On the north bank close to this bridge there is an area of scrub and trees to the north of the footpath, with industrial units to the north and the gasworks to the south (Plate 1). A number of manhole covers to drains are situated at intervals along both sides of the Sewer. Along this stretch the sewer is some 3m below the ground level, with steep banks on each side. Both sides of the sewer are grassed, with the path on the north bank.

5.1.4 The cycleway route then passes by some allotments on the north side, with houses and their back gardens to the south, before reaching the road bridge that carries Churchdale Road across the Sewer (Plate 2). Before the allotments there is a short stretch of shingle path, and then between the allotments and the bridge there is a tarmac path along the north bank, with grass, scrub and reeds, with a drop of some 2m into the Horsey Sewer. The south bank is grass, and the ground is gently rising on the south side.

- 5.1.5 To the west of Churchdale Road the path is now on the south side of the sewer, and it is partly metalled with gravel / shingle for a short distance. There are also exposed pieces of two worn timbers incorporated into the path which may be surviving sleepers from the tramway. The north side of the sewer is a level strip of grass.
- 5.1.6 The survey area broadens out at Bridgemere Community Centre, with the sewer curving around the north of the building. The Community Centre building is a single storey structure with pebbledash walls and a flat roof, with a concrete car park on its southeast side. The surrounding area is grassed, with a few trees. The ground rises to the south of the survey area.
- 5.1.7 To the west of the Community Centre is a bridge (Bridge 1) over the Horsey Sewer, which now carries the road to the Centre car park. Although modified and strengthened, with recent brickwork on the sides, a concrete road surface and metal railings, this is the original tramway bridge. It is constructed from wood-shuttered concrete, with two concrete culvert pipes taking the water underneath (Plate 3; Top).
- 5.1.8 There is a short stretch of open ground with grass and a path on the north side of the Sewer, which is higher than the south side, which has a drop of 1m into the sewer. The south side has scrub and reeds along its edge. On the approach to the next bridge (Bridge 2) there are three possible surviving wooden sleepers exposed, at approximate 1.4m intervals, on the path with some shingle ballast (Plate 4). Two further possible sleepers are located in the path at Bridge 2.
- 5.1.9 Bridge 2 is similar to Bridge 1 in construction, but appears to be in its original state with no modification apart from the modern metal railings. It is constructed from wood-shuttered concrete, with two concrete culvert pipes taking the water underneath, and crosses the Horsey Sewer at an angle (Plate 3; Centre). It may still have its original shingle ballast surface, which continues on the west side, where there is another possible sleeper incorporated into the path.
- 5.1.10 The path now continues on the south side of the Sewer, which is grassed with occasional trees and shrubs, with reeds along the Sewer edge. There is a slight embankment <0.5m high along the south edge of the sewer at this point. The north side is also grassed, but has no embankment. There are houses and gardens along both the north and south sides of the cycle route/ sewer at this point.
- 5.1.11 The Horsey Sewer turns to the south, and is crossed by another bridge (Bridge 3) that continues the route of the tramway to the west. It is similar to the other two bridges, and is constructed from wood-shuttered concrete, with two concrete culvert pipes taking the water underneath. It additionally has steel girders along each side, which support concrete walkways, and modern metal railings (Plate 3; Bottom). The roadway surface appears to be ballast.

5.1.12 To the north of Bridge 3 are the remains of a brick-built arched bridge (Bridge 4). It was not possible to inspect this in detail as it was covered in grass and fenced off (Plate 5). It matches exactly the location of a bridge shown on all of the 1st to 4th Edition OS maps, and on the 1st Edition OS map (1874) shows to be conveying a track to Horsey Farm, although it seems to have gone out of use by the 2nd Edition OS map (1899) presumably to avoid crossing the tramway. The remaining stretch of the cycleway to Ringwood Road is grassed, with a modern tarmac path that follows the line of the tramway.

5.1.13 This walkover of the cycleway route has shown that elements of the 19th to 20th century tramway / railway survive, and comprise the three original bridges, and some evidence for the sleepers and ballast forming the trackway. However, it is not clear whether the bridges are the original 19th century bridges or later replacements. No other archaeological features or artefacts were noted during the site visit.

5.2 The Phase 3 Cycleway

5.2.1 The walk of the Phase 3 cycleway began at the southwest end at Lottbridge Drove and ended at the northeast end at the roundabout south of Langney Bridge. Fig. 25 shows the location of the features mentioned in the text.

5.2.2 The first stretch of the cycleway, alongside the northwest bank of the Horsey Sewer, runs through an industrial estate and is divided into two by Birch Road (Plates 6 and 7); it was this segment of the sewer that was straightened sometime between 1947 and 1961, with the industrial estate having been built up to each side of the sewer sometime between 1975 and 1981. To either side of Birch Road, the route of the cycleway is often heavily overgrown with nettles, thistles and other vegetation. Although there may once have been an informal footpath along here, there is no longer one present.

5.2.3 The Horsey Sewer runs through a culvert under Lottbridge Drove and an adjacent area of grass used for car parking. When the sewer makes a re-appearance, the culvert is seen to be of concrete construction, with modern brickwork having been built over it to span the sewer (see Plate 8 for Culvert 1). A green metal railing has been erected on top of the brickwork for safety reasons.

5.2.4 A few metres further on, a culvert exits from the northwest bank into the sewer (Culvert 2; Plate 9). The clean face of its angular-shaped brickwork reveals that it was built more recently than Culvert 1. For safety purposes, it has wooden fencing cordoning it off, as with all other culverts encountered. About half way up to Birch Road, a culvert (Culvert 3) flows into Horsey Sewer from the northwest bank. As it was not visible from this bank, and the southeast bank was inaccessible, no photograph was taken of Culvert 3.

- 5.2.5 A wide bridge spans the sewer about three-quarters of the way up to Birch Road (see Plate 10 for Bridge 5). It is of the same construction as Culverts 1 and 2, and looks about the same age as Culvert 1. Before it was overgrown, it appears that it was once accessible to vehicles. A wooden gate blocks off its entrance, and is part of the wooden security fencing around this end of the bridge. Beyond the bridge, a culvert (Culvert 4) exits from the northwest bank into the sewer. It was not photographed for the same reason as Culvert 3. The land between Culvert 4 and the road bridge is less overgrown and may have been used at times to reverse or temporarily park vehicles.
- 5.2.6 The road bridge (Bridge 6) taking Birch Road across Horsey Sewer appears to have a thick concrete foundation over the concrete culvert, and a red brick superstructure that includes a wall to either side of the bridge (Plate 11). Two culverts flow into the sewer through the northeast face of the bridge.
- 5.2.7 Beyond Birch Road, the first structure encountered is an overgrown bridge (Bridge 7), which is the same as Bridge 5 and presumably contemporary with it (therefore, no photo of it is reproduced). Before the industrial estate ends, access into the wider patch of scrubland beyond is blocked by wire fencing erected beside the wooden fencing of a culvert (Culvert 5) that emerges from the northwest bank. The brickwork to this culvert was overgrown and therefore not very visible.
- 5.2.8 Beyond the fence, white painted wooden pegs have been surveyed in to mark the route of the Phase 3 cycleway. The scrubland opens onto a field of pasture (Field 1) to the rear of the industrial estate (Plate 12). This field has sheep grazing in it, unlike all other pasture fields walked through which have no livestock. Field 1 also gives the first view of the Levels, showing its expanse and flatness, as well as the encroachment of residential development to the north (Plate 13). In this field, the ground beside Horsey Sewer is slightly raised above the adjacent land.
- 5.2.9 Entry into the next field (Field 2) was through a metal gate and over a causeway (Causeway 1; Plate 12), which was constructed sometime between 1938 and 1960-1961. The drainage ditch was only visible as a line of tall grasses and vegetation, and no structure of the causeway was seen. A culvert probably flowed into the sewer at this point. The surveyed wooden pegs in Field 2 show the cycleway route to run on flat land close to the sewer (Plate 14). A former sluice, with its sluice gate removed, is sited at the top of the field, at the junction between the Horsey Sewer and the Crumble Sewer (Plate 15). This brick and concrete structure has a metal gate blocking vehicle access across it, and has the same green metal railings as Culvert 1. A sluice has been located here since at least 1925-1930. A block of flats (Manton Court) behind the sluice blocks St Anthony's Hill from view. Just to the north of the sluice is a concrete weir-like structure surrounded by metal railings (Plate 16). According to the OS maps, this structure may post-date 1992, although it was preceded by a sluice in 1960-1961. A gas pipeline has been laid beside this possible weir.

- 5.2.10 Exit out of Field 2 and into Field 3 is over a wide bridge built of steel girders and solid wooden planks (Bridge 8; Plate 17); this bridge was built sometime between 1910 and 1925-1930, perhaps when the land to either side of the bridge was part of the RAF airfield by 1918. Two such wooden planks stand erect to support a metal gate at the other end of the bridge. They have clearly been reused, as each has a rectangular pair of notches, along with other smaller circular cut marks. They are likely to have been pulled off from the ends of the bridge; one plank could, for instance, have easily fitted in at the northeast end of the bridge beside the concrete visible through the grass. The cycleway will not cross the Crumble Sewer at the bridge but slightly further to the southeast.
- 5.2.11 Before Field 3 was entered, an old crushed metal container with large rivets was seen lying to the northwest of the bridge, beside the Crumble Sewer (Plate 18). It has no markings to indicate its former use. At this location, St. Anthony's Hill is still not a markedly distinctive landscape feature, perhaps because the housing built on it somehow shields its height.
- 5.2.12 The bridge leads to a small area of pasture fenced off from the rest of Field 3 with posts and metal frames (Plate 19). From here, movement is restricted to the southeast across a causeway (Causeway 2) and into the next field (Field 4) or northwest through a metal gate into the field beyond. The metal fence panels that stand within the enclosure reveal that it is used to separate livestock, probably sheep. The enclosure was in place by 1925-1930 although it resembles part of a larger enclosure in use by 1910, which is not traceable on the ground surface. The cycleway is to run northeast through the fencing of this enclosure and will cross the drainage ditch to the northeast of Causeway 2. This causeway (Plate 20) was built sometime between 1795 and 1875. Its structure is not discernible, as the ditch to either side of it is overgrown. No wooden pegs mark the route of the cycleway beyond the causeway.
- 5.2.13 Field 4 has a path / animal track that runs largely in line with the Phase 3 cycleway route, from Causeway 2 to Causeway 3 at the other end of the field (Plate 21). From this field, St Anthony's Hill is observed as a concentration of housing which appears to stand not that much higher than the surrounding Levels (Plate 22). The drainage ditch between Field 4 and the last field (Field 5) is overgrown and only noticeable as a line of vegetation. There is therefore no visible structure to Causeway 3, although vehicle tracks have exposed it as having a gravel hardstanding below the grass. A wooden post stands erect beside the causeway and reveals that a gate would once have been present. This causeway has been here since at least 1795.
- 5.2.14 In Field 5, a patch of tarmac within the grass was seen beside Causeway 3. Tracks run from the causeway up to the metal gate beside the roundabout (Plate 23). Fragments of brickwork faced with thick concrete have been dumped to either side of this gate (Plate 24). They are likely to represent the demolition rubble of the one or two buildings, built here between 1962 and 1975 and pulled down by 1992. There are three old concrete posts beside the rubble, which may represent a former gate and fenceline.

5.2.15 The Circus and Rotunda Road on St. Anthony's Hill and Leeds Avenue were also visited. The house in the centre of The Circus is a large nursery. The footpath up to this building is partly kerbed by large curved fragments of cut stone, possibly from the Martello Tower. The height of St Anthony's Hill above the Levels was registered when viewing between the houses. The World War I guardhouse (now 'The Bungalow') was still standing on Leeds Avenue, and the foundations of the large airfield hangar were seen at the end of this road. A public house called The Lodge has stood on the same site, on Seaside south of St. Anthony's Hill, since at least 1875-1880. It has recently closed down and currently stands vacant.

6. Impact of the Development

6.1 The Phase 2 Cycleway

- 6.1.1 The route of the Phase 2 cycleway follows the Horsey Sewer, and in places also follows the line of the tramway. The map and aerial photograph evidence shows that this area has been kept free from recent housing development, which has encroached to the south and north of the sewer, on land that was previously meadow used for grazing. Although there are references to the ploughing of allotments, the maps and aerial photographs reveal that there has always been a buffer between these allotments and the sewer.
- 6.1.2 The presence of the tramway represents the only known encroachment into this ‘buffer zone’. Assuming its construction followed normal railway building practice, the railway track and sleepers would have been laid on a raised bed of ballast, and almost certainly locally available shingle would have been used here. Some landscaping would have been carried out to provide a flat surface (for example the cutting or embankment shown on the 1st Edition OS map), and engineering and bridging work would have been needed at the three points the tramway crossed the Horsey Sewer.
- 6.1.3 No evidence for any earlier archaeological features or activity within the Phase 2 site has been found in this Desk-based Assessment. However, the sites’ location on the edge of the Levels, and the existence of archaeological remains in the broader landscape, may suggest the presence of buried archaeological deposits from prehistory through to the medieval period. The documentary and map evidence reveal that the immediate landscape has changed little in land use from the medieval period through to the later 19th century.
- 6.1.4 Given the evidence accumulated during this Desk-based Assessment for the Phase 2 cycleway route, the probability of finding remains from each of the different archaeological periods is shown in Table 1 below:

Table 1

Period	Potential
Palaeolithic	Low
Mesolithic	Medium
Neolithic	Medium
Bronze Age	Medium
Iron Age	Low
Roman	Medium
Saxon	Low
Medieval	Medium
Post Medieval	High

- 6.1.5 The shallow depth of the Phase 2 cycleway path varies between 240mm and 385mm (Fig. 26), and should mean that there will be minimal impact on any pre-19th century archaeological deposits. Signposts and other intrusive works connected with the development may have deeper impact depths. The major impact will be on the surviving elements of the tramway between Churchdale Road and Ringwood Road.
- 6.1.6 Although there is a preference to leaving heritage assets in-situ wherever possible⁷⁵, it is suggested that this would not be a feasible option in these circumstances. The retention of wooden railway sleepers in the Phase 2 cycleway may lead to longer maintenance issues, with the wood rotting and problems relating to the different materials and surfaces leading to an uneven and potentially dangerous surface to the cycleway. There may be some benefit to re-aligning the cycleway to follow the existing footpath between Churchdale Road and Ringwood Road, which is on the line of the old tramway, and may therefore provide an existing hard surface.
- 6.1.7 The Phase 2 site is considered to have a high potential for below ground deposits of archaeological, palaeo-environmental and geo-archaeological interest, especially at greater depths, due to the potential for waterlogged remains.

6.2 The Phase 3 Cycleway

- 6.2.1 There is no evidence of any activity around the Phase 3 site prior to the medieval period. This is largely a reflection of the landscape, which was ever changing. In the Mesolithic and Neolithic periods, for instance, the site lay within the marshy Levels, probably beyond the fringes used for hunting and fishing, whilst in the Bronze Age the encroachment of the peat may have meant that the site became more accessible for exploitation. The Levels were under floodwater by the end of the Early Iron Age, thus making them more untenable, whilst they formed the seabed in the Roman period and possibly into the Saxon period as well.
- 6.2.2 The earliest evidence of settlement in the area of the Phase 3 site dates to the early medieval period when a Cluniac monastery was established at Langney; remains of its stone buildings survive today in the later 16th century house of Langney Priory. The tidal mill of this monastery may have stood close to the northeast end of the Phase 3 site, prior to land reclamation in the 13th-14th century. During the medieval period, the state of the land along the Phase 3 cycleway presumably switched between various stages of flooding and reclamation, with the uses alternating accordingly to leave what may be a varied archaeological record.

⁷⁵ PPS5

- 6.2.3 Some of the drainage ditches seen today in the area of the Phase 3 site may have originated in the medieval period although there is documentary evidence of sewer work having been commissioned here in the early 16th century. Historic maps show the surrounding field system to have remained largely unchanged from 1778-1783 to the present day. The presence of a driveway onto Lottbridge Drove from at least the late 18th century (until the straightening of a ditch to join the Horsey Sewer sometime between the late 1940's and early 1960's), and a number of separation / holding pens dating from at least the late 19th century onwards, reveal that the land was pasture, most probably for the grazing of sheep as it is today. This land use is unlikely to have destroyed or damaged any earlier archaeological features that may survive.
- 6.2.4 It is clear from the two deed maps that the land on St. Anthony's Hill purchased by the government in 1795 for the construction of a Martello Tower, and again in 1805, fell outside the site boundary.
- 6.2.5 The use of the Phase 3 site as pasture was interrupted from December 1911 to perhaps as late as 1925, with the establishment of a manufacturing and flying school aerodrome, which was to become an RNAS flying school in 1915 and a training depot station for the RAF in 1918, only reverting back to civilian use in 1920. The buildings and hangars for the much larger RAF airfield stood outside the Phase 3 site boundary, either around the edge of St. Anthony's Hill or further to the west, off Lottbridge Drove. Amongst these buildings were those that had stood since the aerodrome first opened (Fig. 27).
- 6.2.6 The bridge across the Crumble Sewer, sited a few metres west of the Phase 3 cycleway, was built between 1910 and 1925-1930, almost certainly once the land to its north had been incorporated into the airfield by at least 1918. The sturdiness of this bridge suggests that it supported heavy transport, rather than just lightweight aircraft that could have crossed over boarded ditches (Fig. 28). The bridge was the only feature of the airfield observed during the site visit but its presence implies a track, which perhaps led to the buildings based around St. Anthony's Hill. The track could have crossed the Crumble Sewer for a second time further to the south at the sluice, which was built in roughly the same period; tighter water management may have been necessary to make this location suitable for use as an airfield. The weir-like structure to the north of the sluice is of later construction, having perhaps not even been built by 1992. The impact of the construction of each of these two structures may have extended into the route of the Phase 3 cycleway.
- 6.2.7 The one or two buildings that stood at the northeast end of the Phase 3 site, from 1961-1975 to sometime prior to 1992, may have been associated with the construction of the roundabout. Any archaeological layers within their footprint may have been damaged or fully destroyed by the excavation of any associated footings.

6.2.8 Given the evidence accumulated during this Desk-based Assessment for the Phase 3 cycleway route, the probability of finding remains from each of the different archaeological periods is shown in Table 2 below:

Table 2

Period	Potential
Palaeolithic	Low
Mesolithic	Low
Neolithic	Low
Bronze Age	Medium
Iron Age	Very Low
Roman	Very Low
Saxon	Very Low
Medieval	Medium
Post Medieval	High

6.2.9 Although the details are unknown, the Phase 3 cycleway is likely to be shallow in depth, as with the Phase 2 cycleway (see para. 6.1.5 and Fig. 26). Therefore, the impact on any pre-20th century archaeological deposits is generally likely to be minimal. However, any remains of the early 20th century airfield, such as temporary road surfaces, may lie just below the ground surface and will be destroyed by the groundworks. The bridge of the First World War airfield is to remain in situ, as a crossing for the cycleway is to be built to its southeast. Construction of this bridge will impact upon the Crumble Sewer, which was in existence by at least the late 18th century but could have been excavated as early as the 16th century. Again, signposts and other intrusive works associated with the development may have a deeper impact.

6.2.10 The Phase 3 site is considered to have a high potential for below ground deposits of archaeological, palaeo-environmental and geo-archaeological interest, especially at greater depths, due to the potential for waterlogged remains. There is a small potential for unexploded ordnance due to the presence of the World War I airfield.

7. Conclusions

7.1 The Phase 2 Cycleway

- 7.1.1 The Desk-based Assessment for the Phase 2 cycleway has established that there is evidence for activity from the Mesolithic period through to the Post Medieval period in the wider surrounding area of the site. The map and documentary evidence for the more recent agricultural landscape in the immediate surroundings suggests that it has not altered to any great extent over the last 300-400 years and possibly earlier, until the recent housing developments of the 20th century.
- 7.1.2 The only known existing impact to the site has been the construction of the tramway / railway and its associated works, together with the tanks at the northeast end, noted on the 4th Edition OS map, and the recent building of the Bridgemere Community Centre. Evidence for the tramway does survive in the upper levels of the stratigraphy and the ground surface, as demonstrated by the four possible surviving sleepers found during the site visit. This surviving archaeology will be affected by the proposed development. Additionally the three bridges that carried the railway across the Horsey Sewer are all still in situ and may also be affected by the works.
- 7.1.3 Although the tramway is relatively recent, having only gone out of use in 1966, very little is known about it, apart from the map evidence and some limited photographic evidence. In terms of local industries, such as the Crumbles shingle extraction, and the gasworks and brickworks, it was very important, and during its main period of operation was an essential component of these local industries. It should therefore be seen as being of Local importance, and thus justifies appropriate recording if it or any of its components are affected by the proposed cycleway.
- 7.1.4 It was therefore recommended that a programme of archaeological work be undertaken during the development. An archaeological watching brief should take place to monitor the works, to record surviving evidence for the tramway and other archaeological deposits and features revealed by the works, and a small evaluation excavation in the area of the sleepers adjacent to Bridge 2.
- 7.1.5 An archaeological evaluation was undertaken in 2011 during the Phase 2 works. A total of three trenches were opened, two of which were excavated by machine (Trenches B & C) whilst the third was hand dug by a group of local volunteers (Trench A). Trench A was located on the route of a 19th to 20th century railway line, at a crossing point over the Horsey Sewer. Excavations by the volunteers revealed a number of in-situ sleepers and associated track furniture, along with possible evidence for the original bridge spanning the Horsey Sewer. Trenches B and C were excavated alongside the Horsey Sewer, and no significant archaeological deposits were encountered in either trench. Up to 3m depth of silty clay was exposed in Trench C., and in Trench B peat deposits were revealed at approximately 1.3m below the ground surface.

- 7.1.6 An archaeological watching brief was carried out on the route of the Phase 2A cycleway, between Ringwood Road and Churchdale Road, during the works. At both ends of the site the ground had been landscaped after the railway was removed and little evidence remained. In the centre the course of the track could be discerned and the positions of the sleepers identified. Additionally discarded rail furniture and fittings, together with a range of other late 19th and 20th century artefacts was also recovered. Evidence from the watching brief suggests that areas at the west end of the route and east of Horsey Sewer may still retain evidence of the former Railway.
- 7.1.7 It has already been agreed that the Phase 2B route between Churchdale Road and Lottbridge Drove should be monitored by an archaeological watching brief to be carried out during the works, which has been covered by the existing Phase 2 WSI and will be confirmed in the new WSI covering Phase 2B and Phase 3 works.

7.2 The Phase 3 Cycleway

- 7.2.1 The Desk-based Assessment for the Phase 3 cycleway has established that there is no archaeological evidence of activity within the immediate vicinity of the site until the medieval period, when the land would have been reclaimed from the sea. Since major sewer works documented in the early 16th century, the land around the site is unlikely to have changed much, having probably only ever been pasture. The historic maps from the late 18th century onwards substantiate this idea. The government land surrounding the Napoleonic Martello Tower on St. Anthony's Hill was confined to the west by the Crumble Sewer and so did not extend into the site.
- 7.2.2 There is no longer any strikingly obvious indication that an aerodrome was built on the site and the immediate area in the early 20th century; the aerodrome was predominantly taken over for training purposes in World War I and closed in 1925 after civilian use. The site visit and cartographic analysis has identified at least one possible feature from this time - a solid plank bridge with girder beams capable of supporting heavy vehicles across the Crumble Sewer.
- 7.2.3 The construction of a bridge over the Crumble Sewer is likely to damage this ditch of possible early Post Medieval date. Because the cycleway will probably have a shallow impact depth, any other archaeological remains present of pre-20th century date may only be harmed by the development if it involves groundwork with depth, such as the possible erection of signposts. The World War I bridge will be unaffected by the proposal but as the cycleway may cross over land once used to approach the bridge, any sub-surface remains of a temporary road surface will for example be destroyed.

- 7.2.4 It is recommended that targeted evaluation trial trenching of areas highlighted in this Desk-based Assessment. The exact locations for the trenches will be set out in a WSI for the Phase 3 mitigation work. The trial trenching should be carried out in advance of a planning decision being made so that the results could inform the design and layout of the Phase 3 route at its eastern end.
- 7.2.5 It is also recommended that a watching brief be carried out during excavation of the foundations for the cycleway, and for all other associated groundworks, which take place within the boundary of the larger 1918 airfield. This will ensure that any archaeological features found associated with both the early and later airfield will be fully excavated and recorded. It is also considered important that any excavation work for the bridge over the Crumble Sewer be archaeologically monitored, as this may uncover dating evidence as to when it was first cut.

8. Acknowledgements

- 8.1** We would like to thank Alan Cook of East Sussex County Council for commissioning this Desk-based Assessment. Casper Johnson, County Archaeologist at ESCC, provided the Phase 2 specification for the desk-based assessment, and Greg Chuter, Assistant County Archaeologist provided copies of the East Sussex HER.
- 8.2** Chris Butler would also like to thank the staff at the NMR in Swindon, the East Sussex Record Office and the Sussex Archaeological Society Library for their help in locating aerial photographs and other sources in their possession. Rachel Butler recorded and analysed the tithe map apportionments. Chris Butler would also like to thank Lawrence Stevens for providing background information about the area.

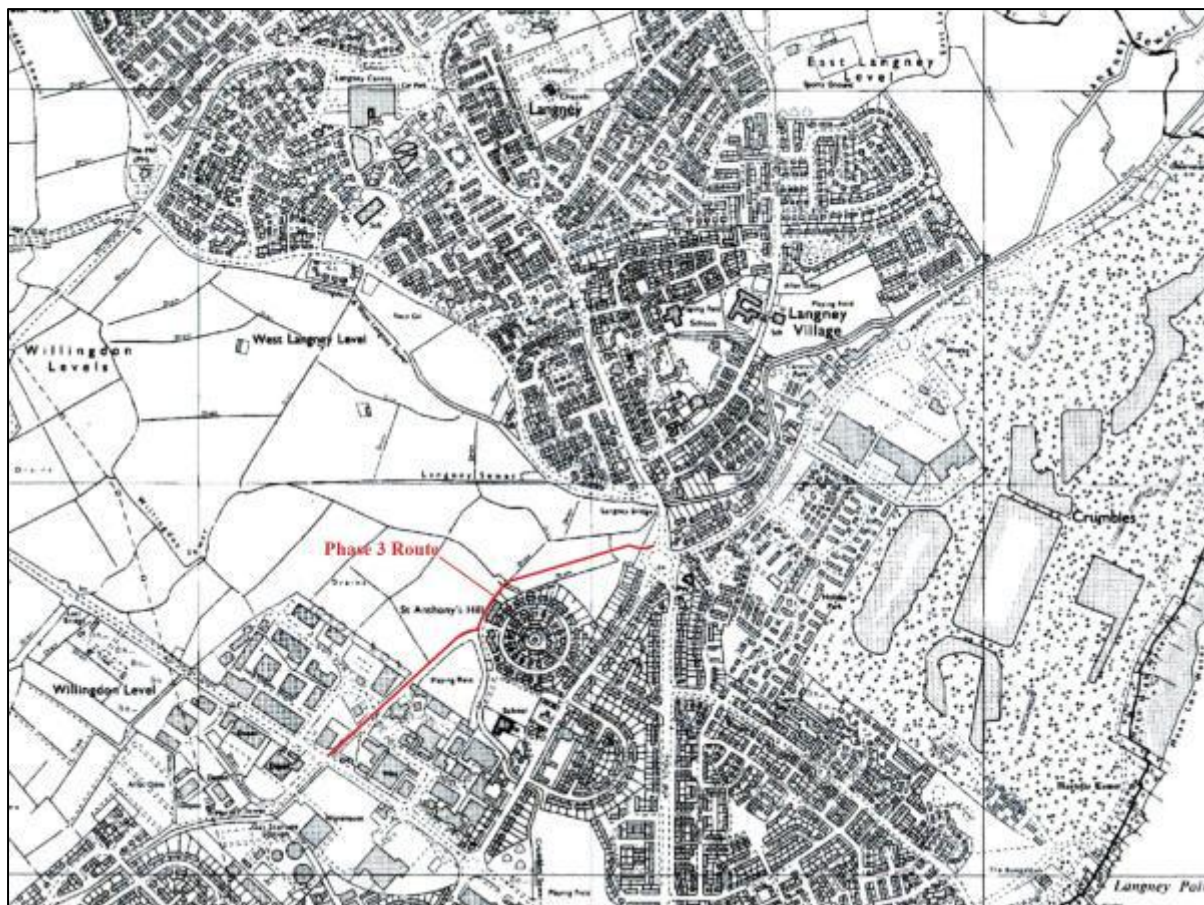


Fig. 2: Eastbourne Cycleway: Phase 3 site location map
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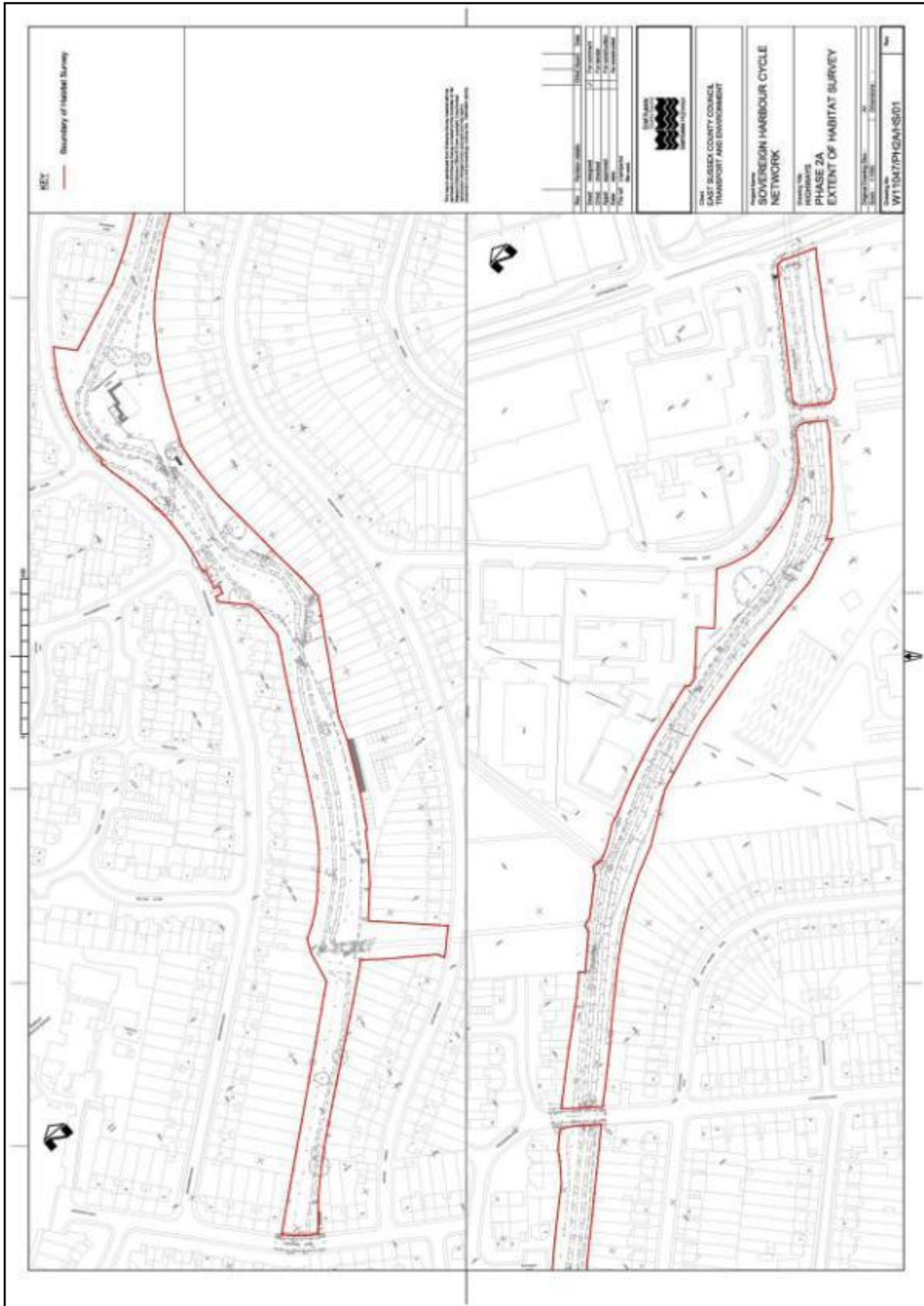


Fig. 3: Eastbourne Cycleway: Map of Phase 2 cycleway
(Adapted from map provided by ESCC)

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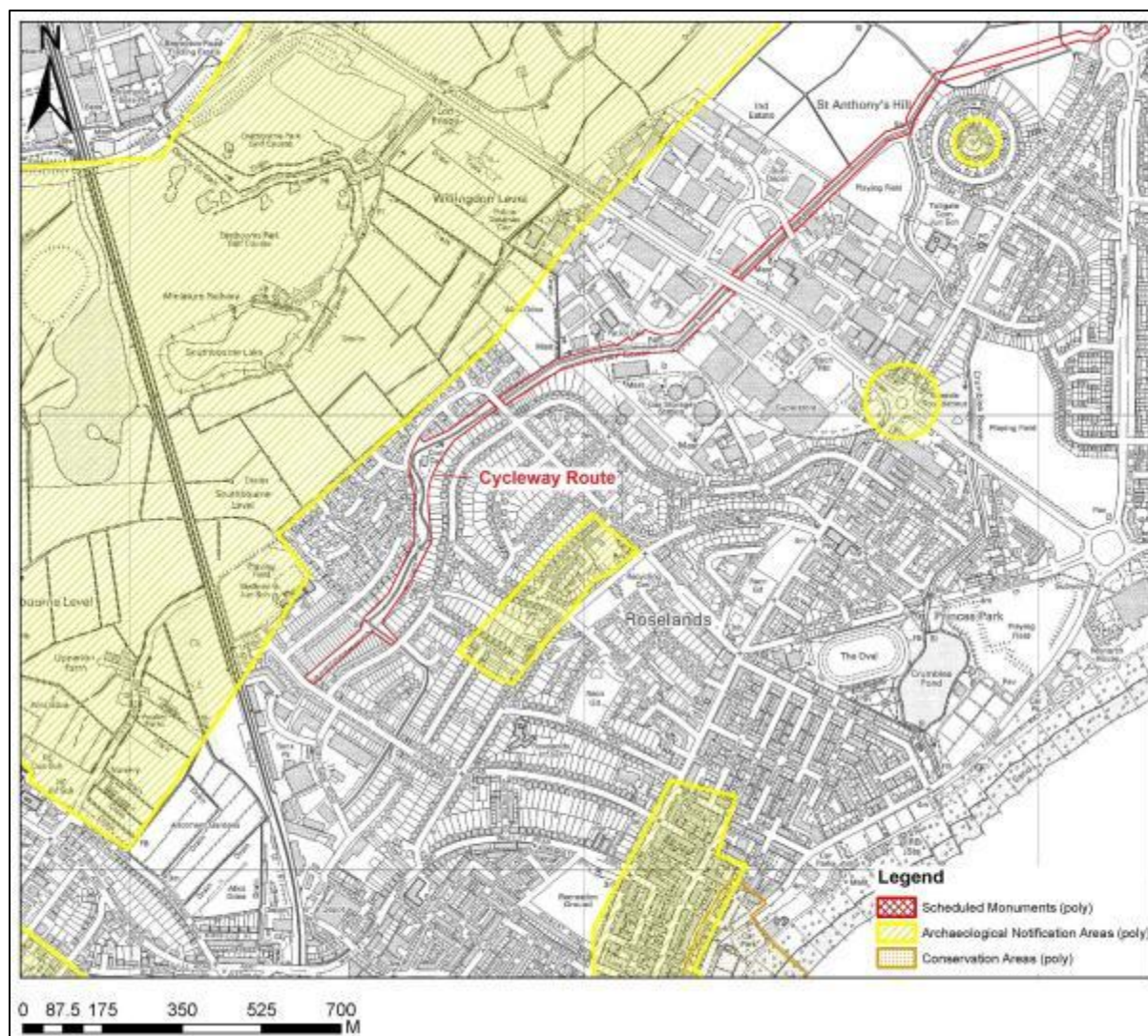


Fig. 4: Eastbourne Cycleway: Map showing Archaeological Notification Areas
(Adapted from map provided by ESCC)

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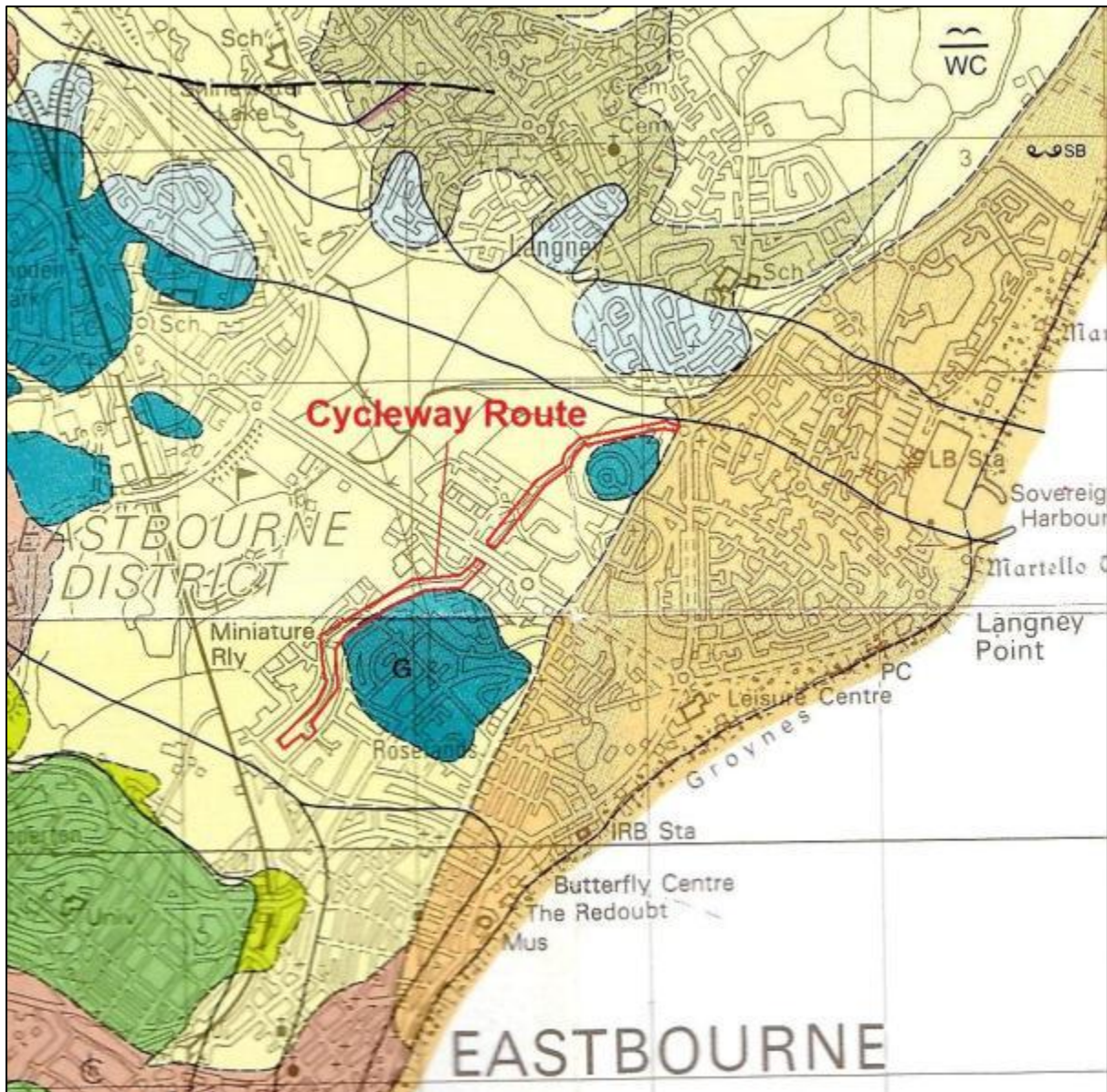


Fig. 5: Eastbourne Cycleway: Geological Map

(Adapted from map provided by ESCC)

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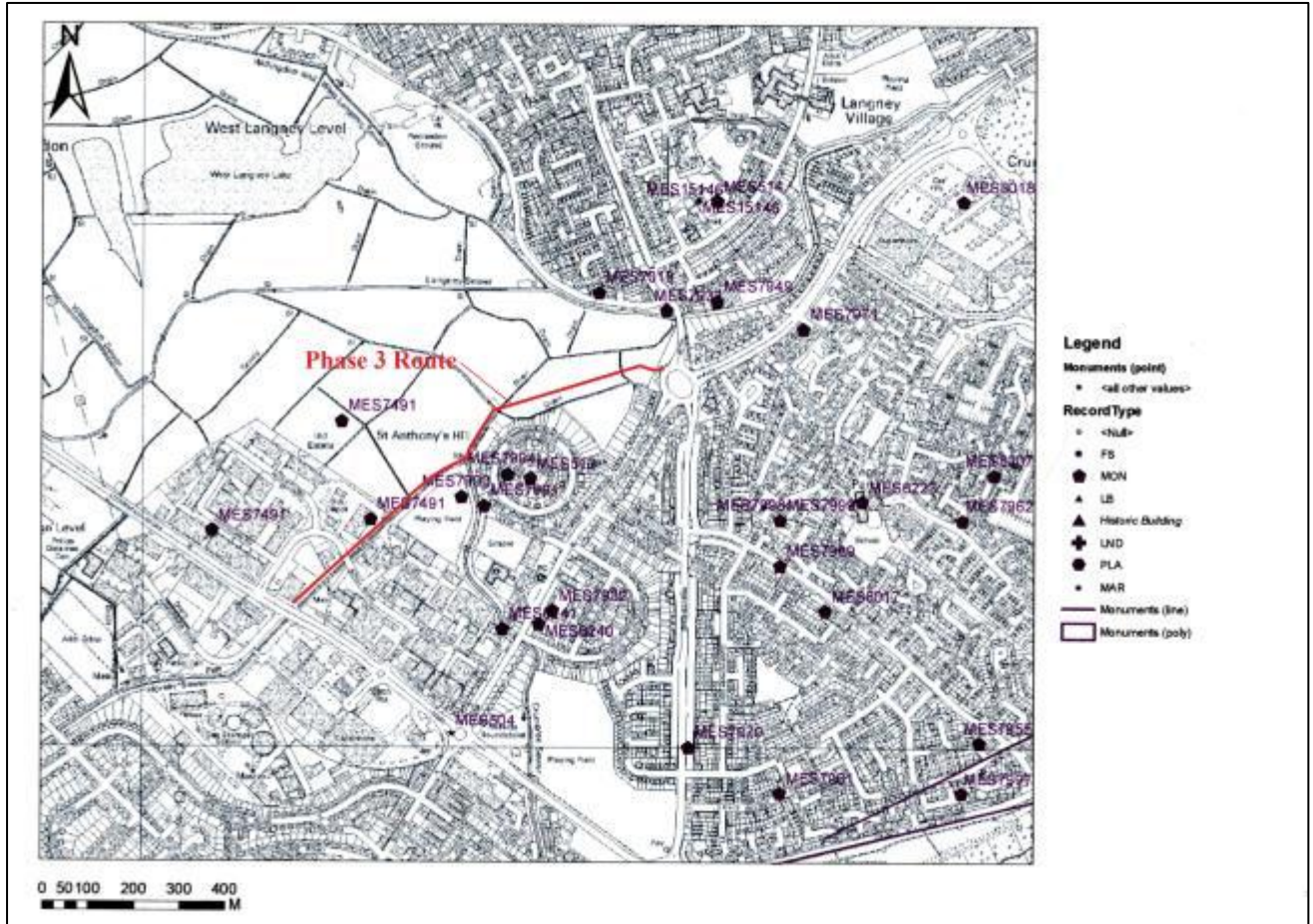


Fig. 7: Eastbourne Cycleway: Map showing Monuments on the HER
for Phase 3 cycleway
(Adapted from map provided by ESCC)
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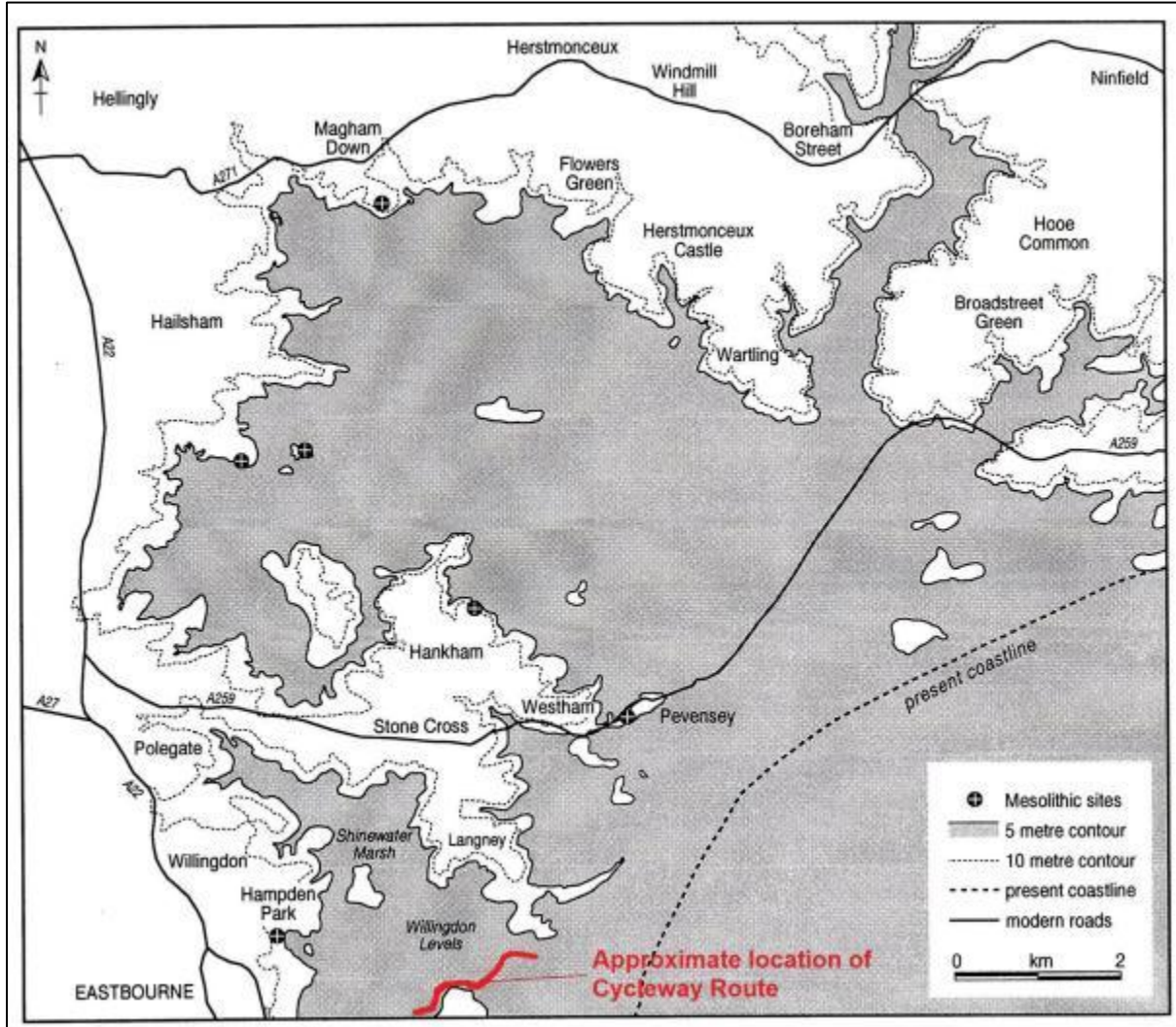


Fig. 8: Eastbourne Cycleway: Map of Pevensey Levels showing Mesolithic sites around 5m contour line
(From Butler 2002)

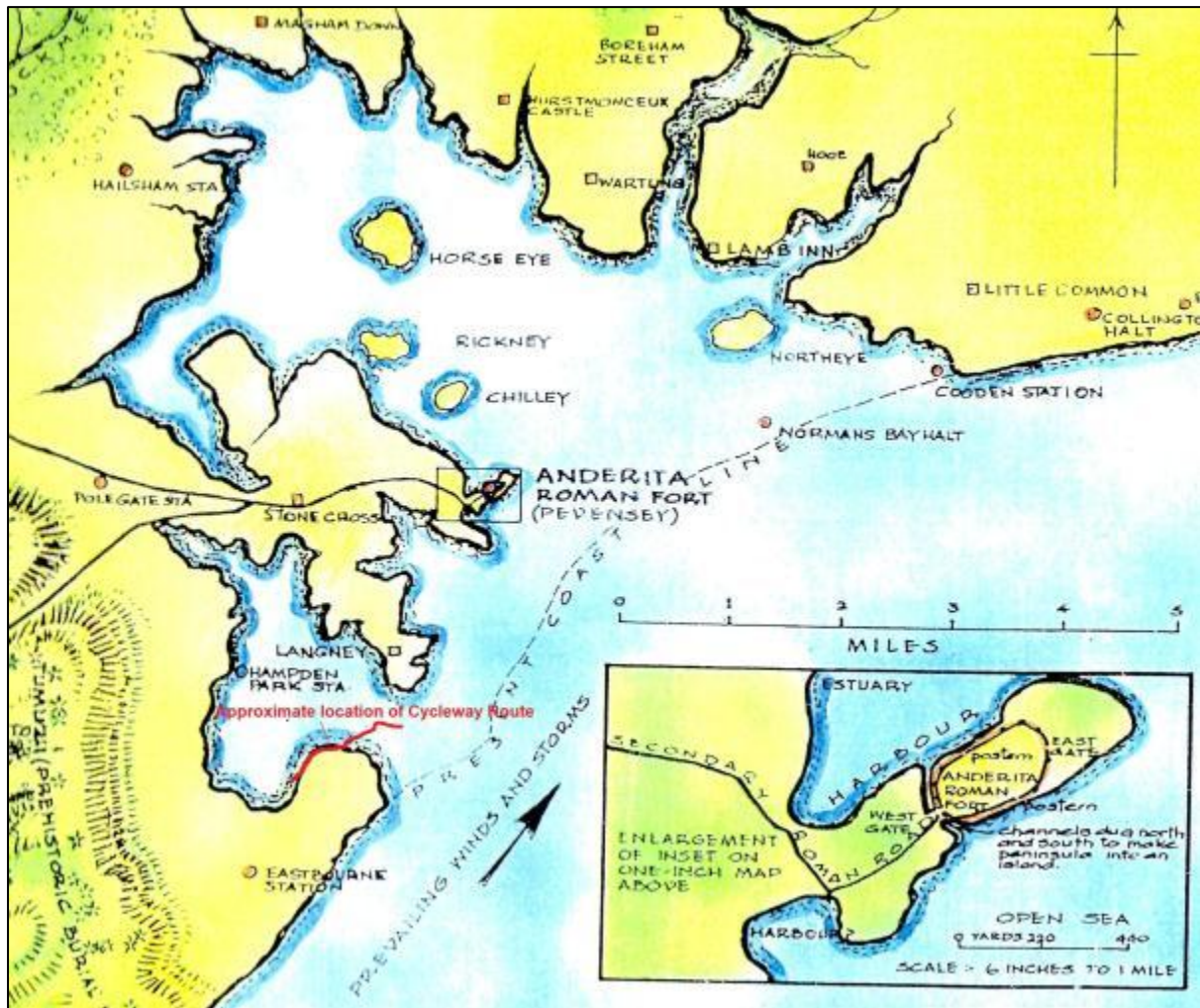


Fig. 9: Eastbourne Cycleway: Map showing the coastline at Pevensey c.340AD
(Adapted from drawing by S. Murrell, 1980)

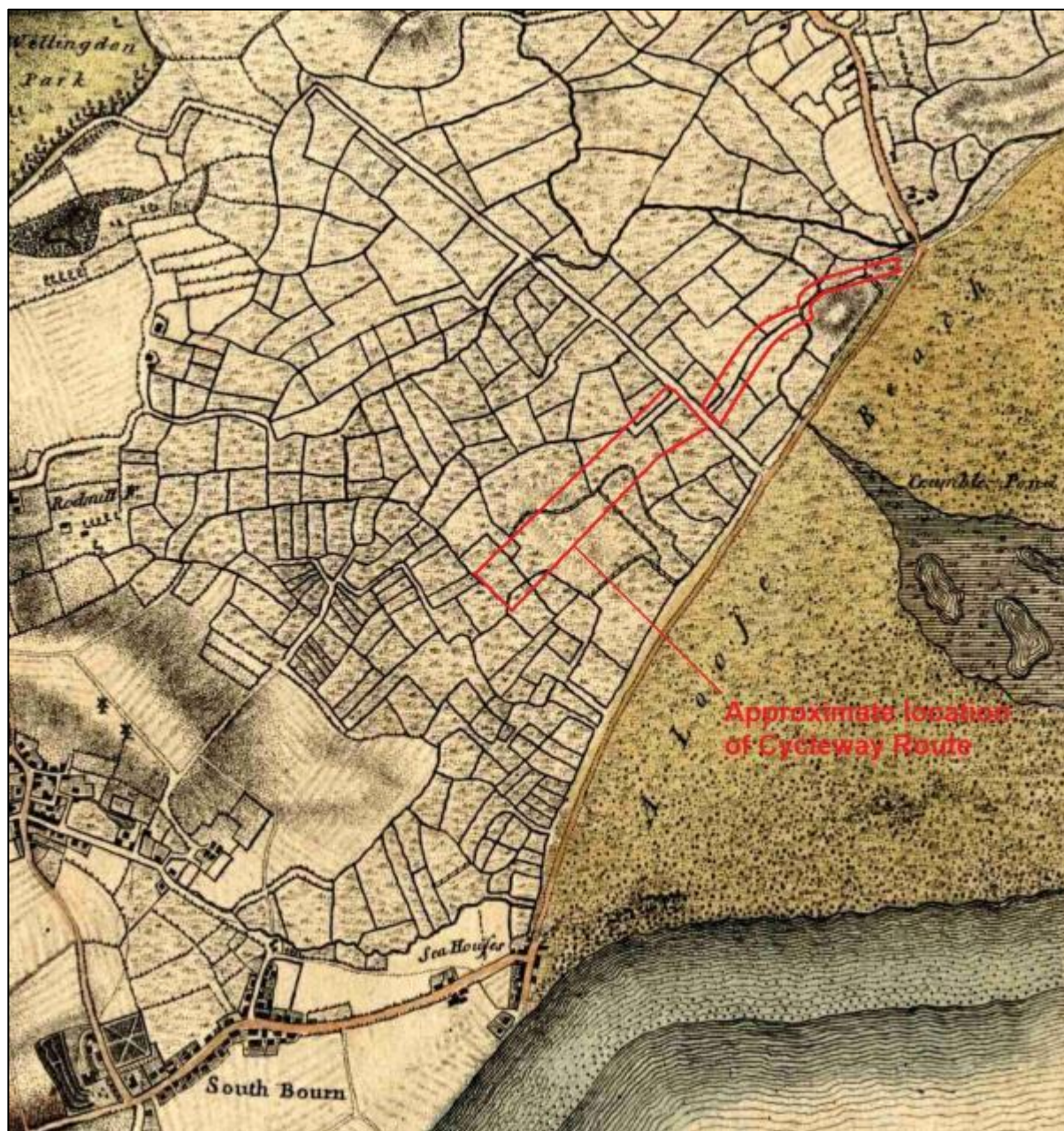


Fig. 10: Eastbourne Cycleway: Yeakell and Gardiner's map, 1778-1783

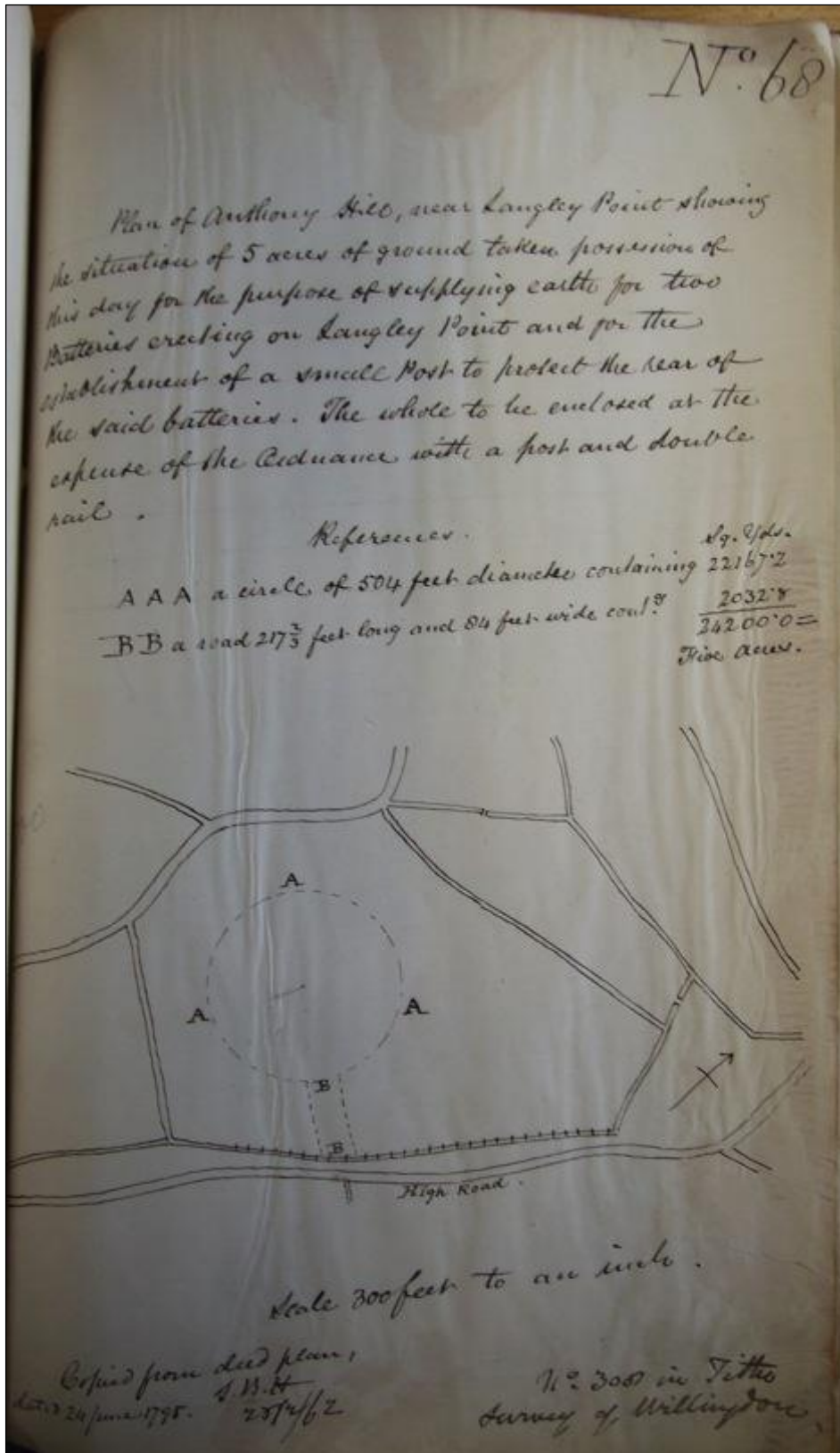


Fig. 11: Eastbourne Cycleway: 1862 copy of a deed plan of St. Anthony's Hill, dated 1795

(From <http://sussexhistoryforum.co.uk>; original source unknown)

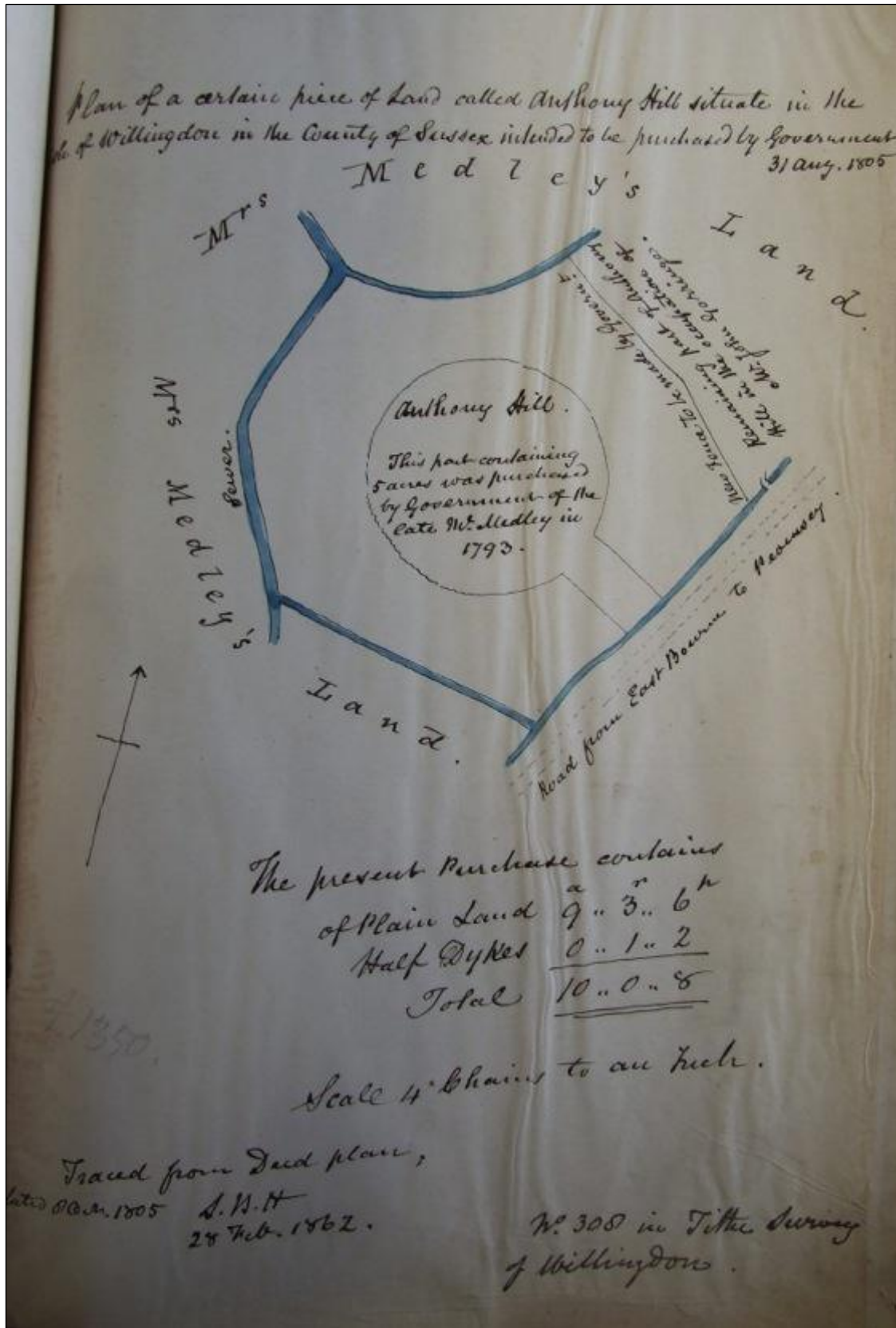


Fig. 12: Eastbourne Cycleway: 1862 copy of a deed plan of St. Anthony's Hill,
dated 1805

(From <http://sussexhistoryforum.co.uk>; original source unknown)

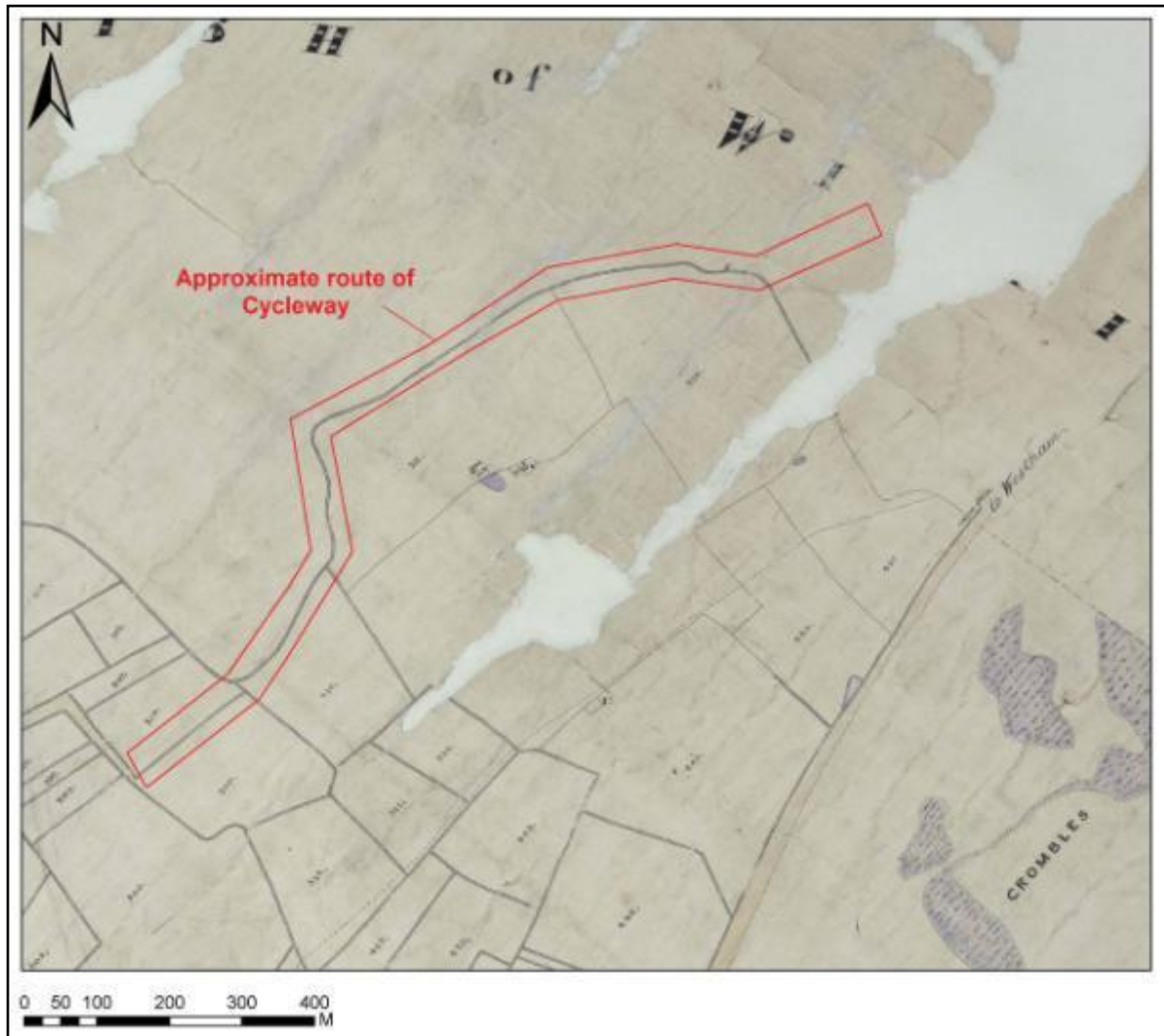


Fig. 14: Eastbourne Cycleway: Eastbourne Tithe map, 1841 (Phase 2 cycleway)
(Reproduced from copy provided by ESCC)

Apportionment

No.	Owner	Occupier	Name	Use
309	Lord Burlington	John Gorringe	Fullers Marsh Piece	Pasture
310	Lord Burlington	Benjamin Waters	Motcombe Farm Overbridge Piece	Pasture
311	Lord Cavendish	Benjamin Waters	North Horsey	Pasture
312	Lord Cavendish	Benjamin Waters	Horsey Lodge & Yards	-
313	Lord Cavendish	Benjamin Waters	Cottage & gardens at High Horsey	-
314	Lord Cavendish	Benjamin Waters	Horsey Ell Piece	Pasture
315	Lord Cavendish	Benjamin Waters	High Horsey	Pasture



Fig. 15: Eastbourne Cycleway: Willingdon Tithe map, 1842
(Phase 2 cycleway and part of Phase 3 cycleway)
(Reproduced from copy provided by ESCC)

Apportionment

No.	Owner	Occupier	Name	Use
352	Lord Liverpool	James Pagden	-	Pasture
353	Lord Liverpool	James Pagden	-	Pasture
355	Lord Burlington	John Waters	Inner Bartholemews	Pasture
356	Lord Burlington	John Waters	Outer Bartholemews	Pasture
357	Lord Liverpool	James Pagden	-	Pasture
358	Lord Liverpool	James Pagden	-	Pasture
359	Mary Ann Gilbert	Robert Boys	-	Pasture
360	Lord Burlington	John Waters	Marsh	Pasture

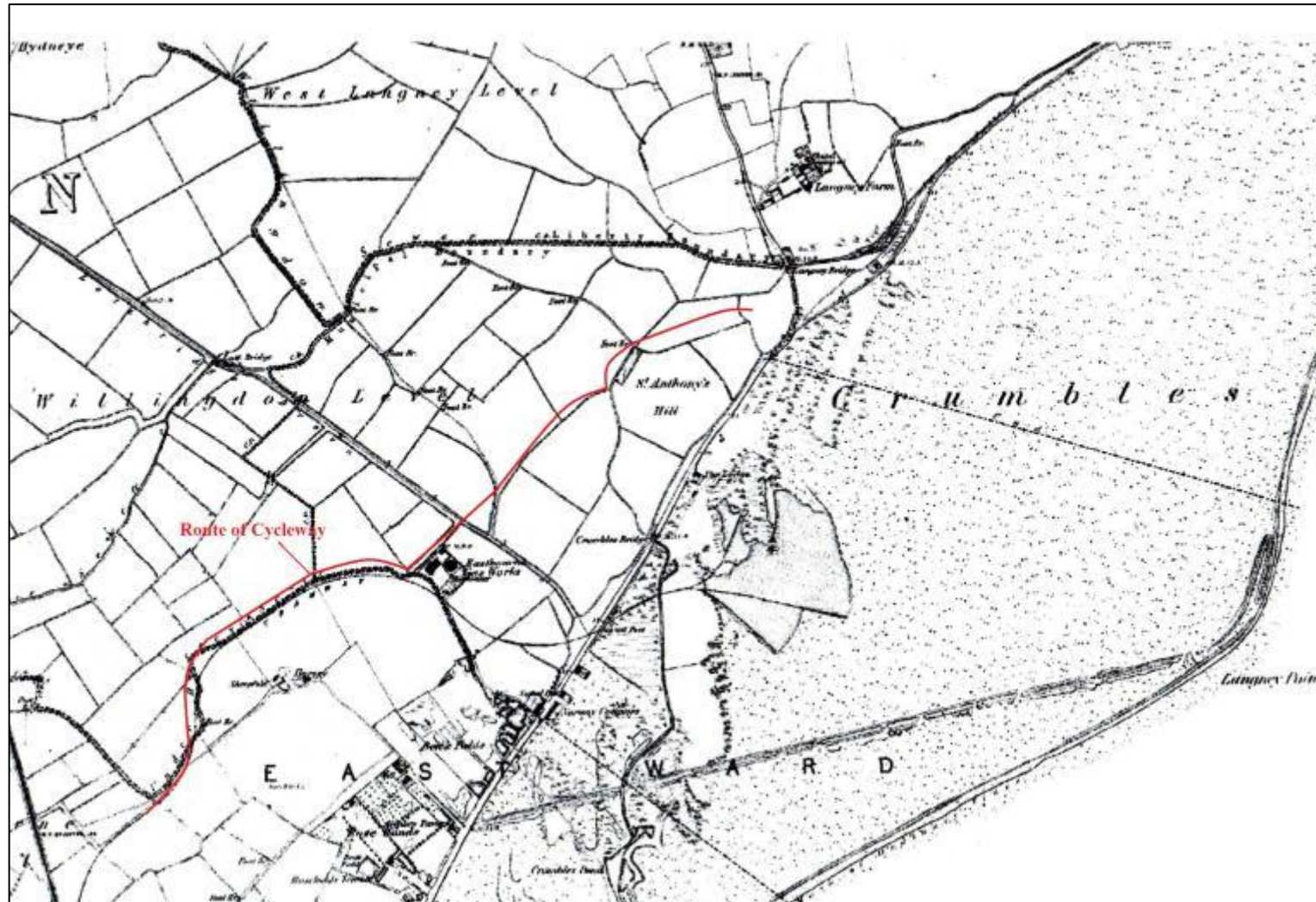


Fig. 16: Eastbourne Cycleway: 1st Edition OS map, 1874

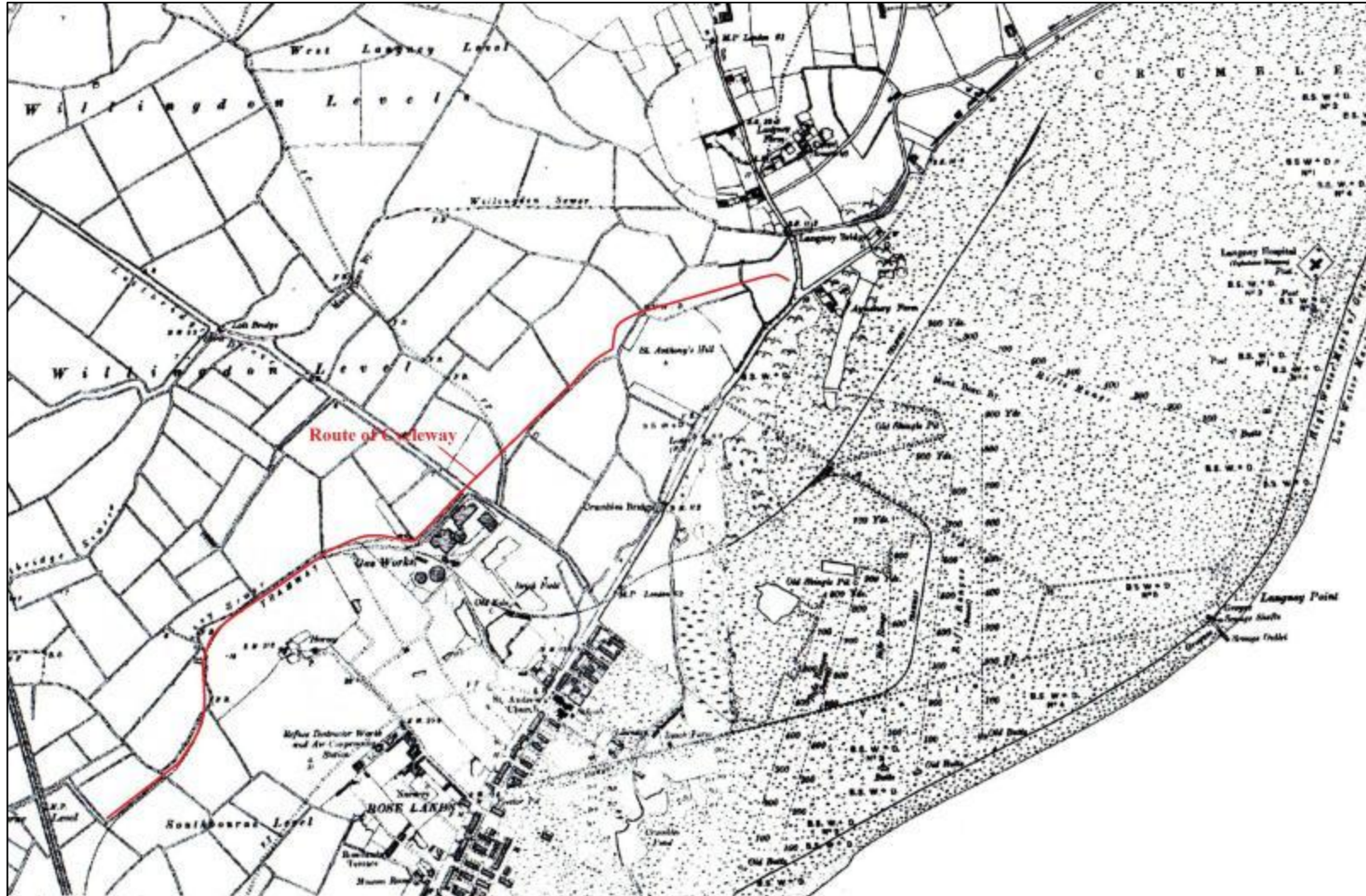


Fig. 17: Eastbourne Cycleway: 2nd Edition OS map, 1899

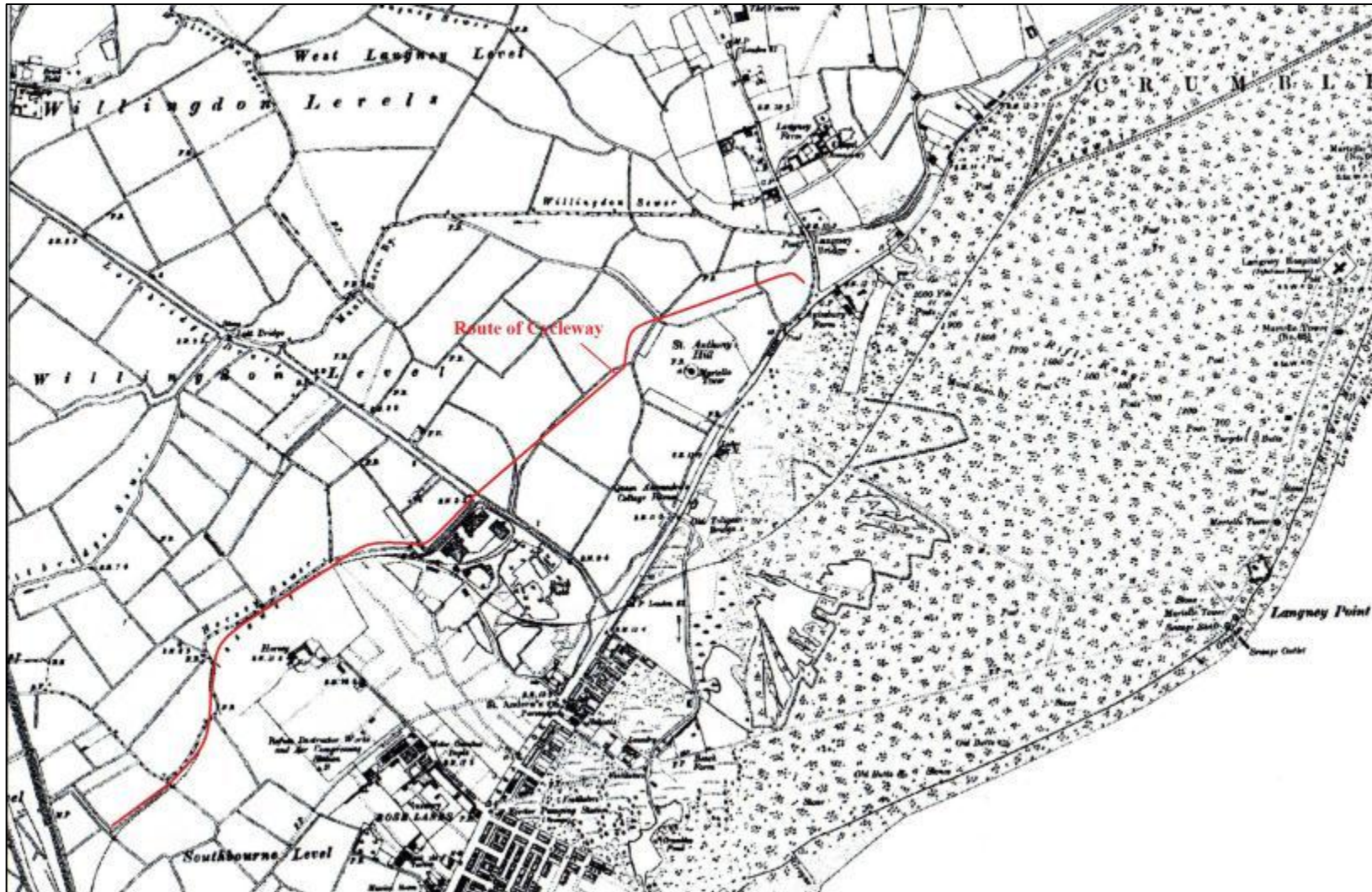


Fig. 18: Eastbourne Cycleway: 3rd Edition OS Map 1909

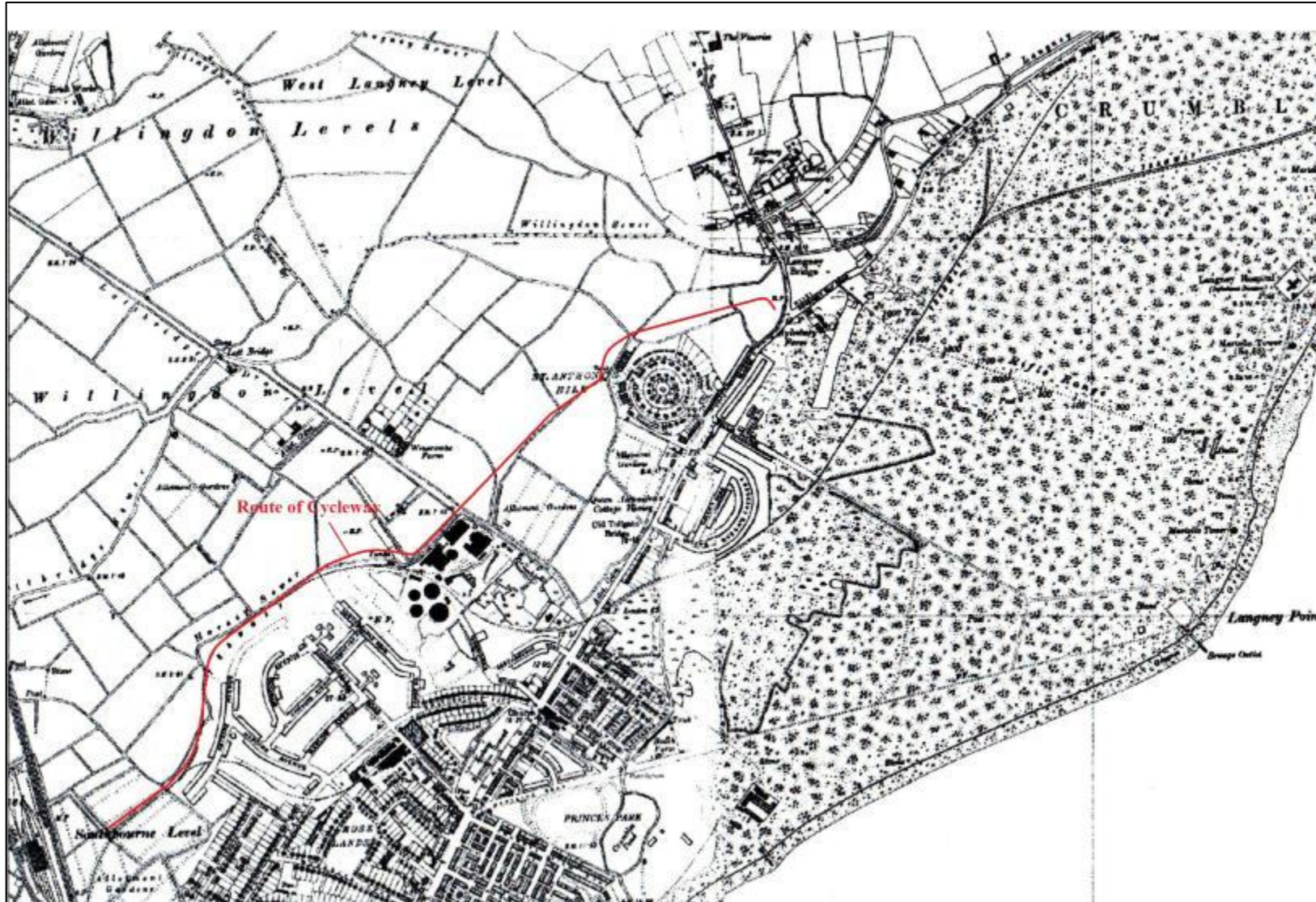


Fig. 19: Eastbourne Cycleway: 4th Edition OS map, 1928

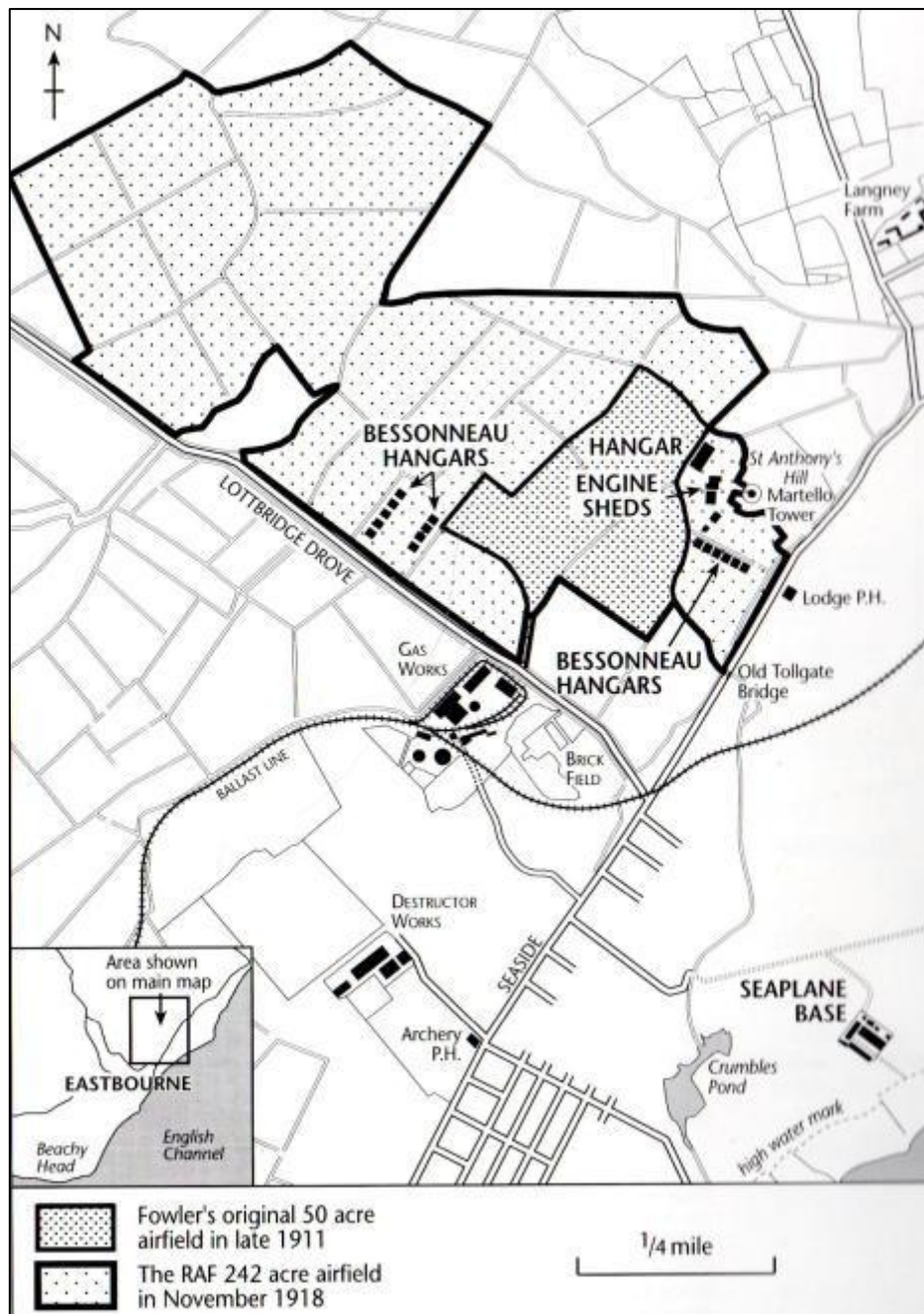


Fig. 20: Eastbourne Cycleway: Map of the airfield, 1911 and 1918
(McMahon, L. and Partridge, M. 2000. *A History of the Eastbourne Aviation Company 1911-1924*)



Fig. 21: Eastbourne Cycleway: Coal empties returning from the gas works along the Ballast Line
(Adapted from Botha, A. 2006)

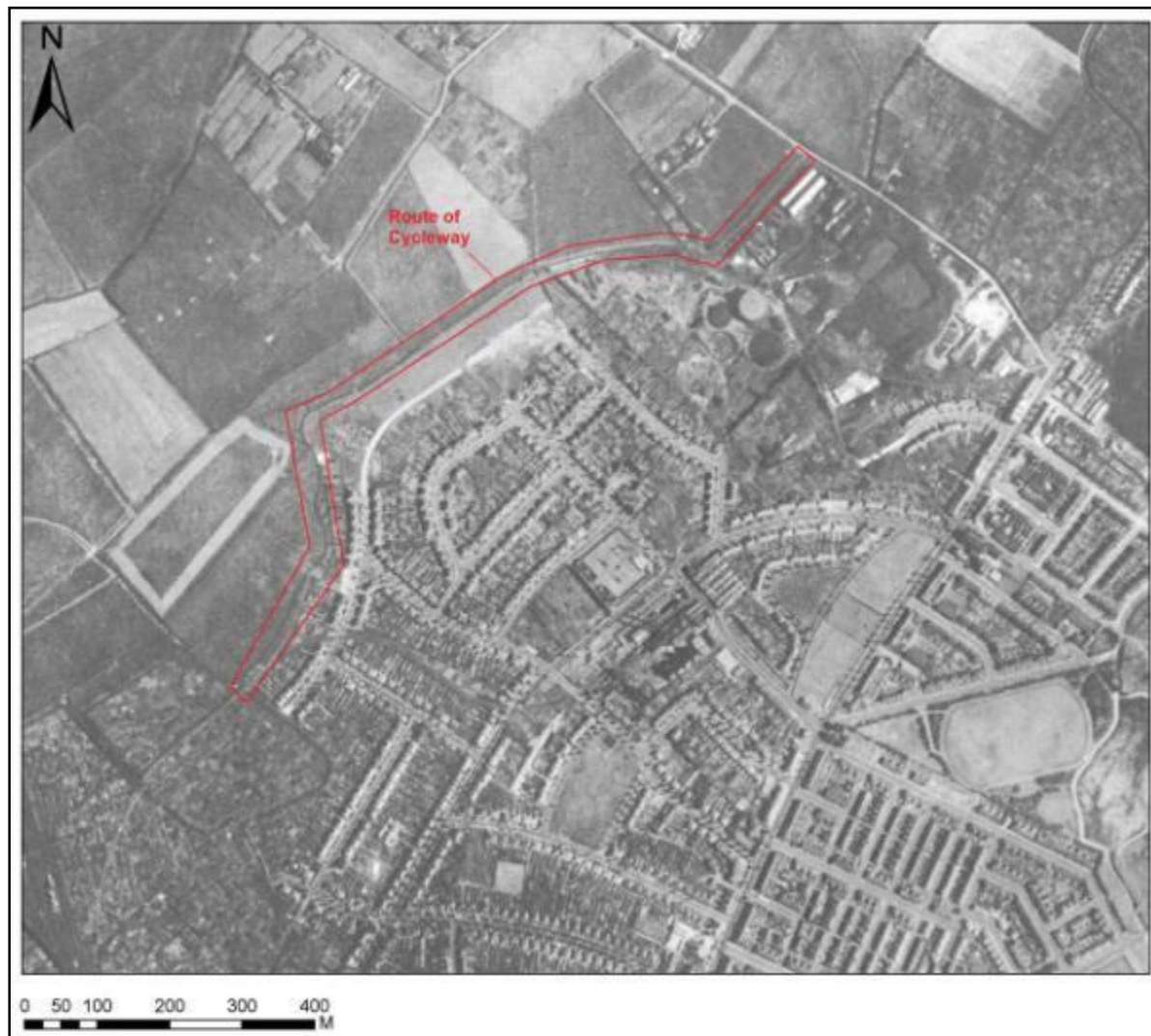


Fig. 22: Eastbourne Cycleway: 1947 Aerial Photograph
(Phase 2A cycleway and part of Phase 3 cycleway)
(Adapted from photograph provided by ESCC)

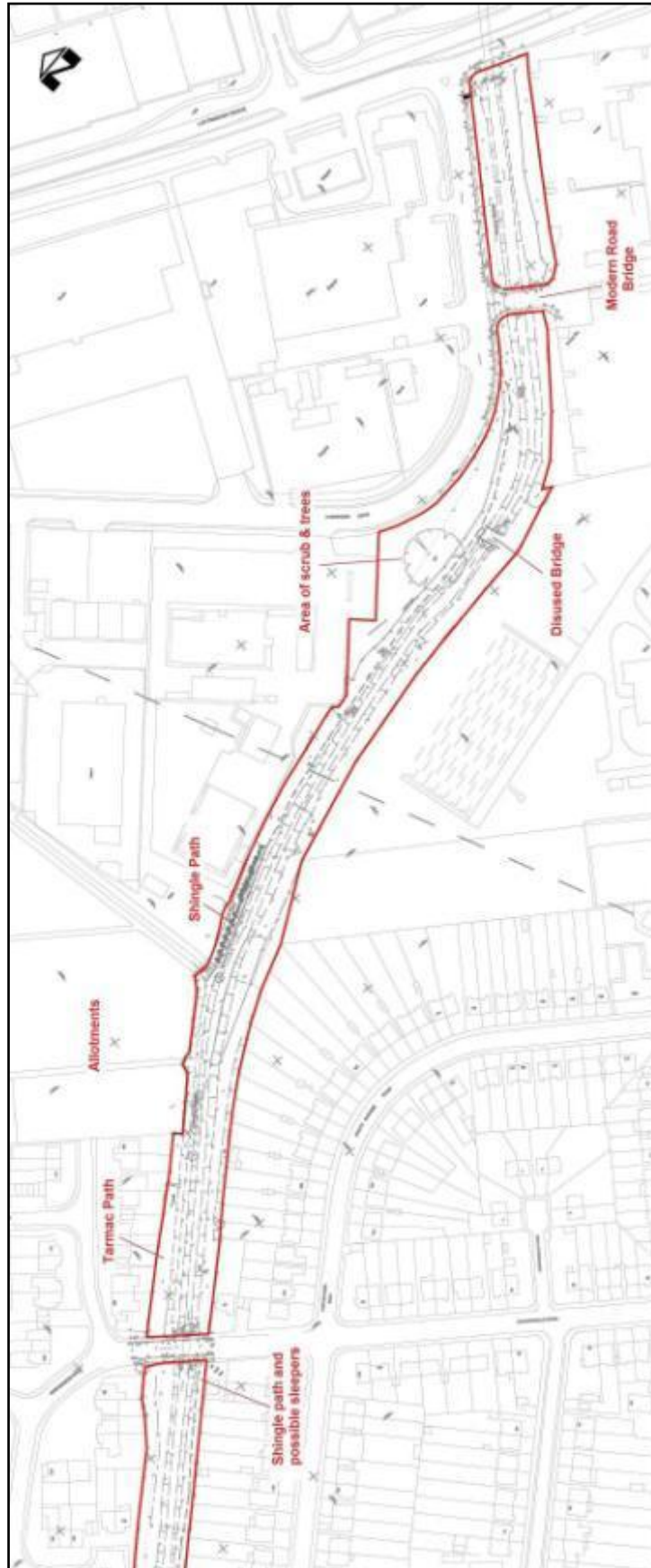


Fig. 23: Eastbourne Cycleway: Site visit map
(northeast area of Phase 2A cycleway)



Fig. 24: Eastbourne Cycleway: Site visit map
(southwest area of Phase 2A cycleway)

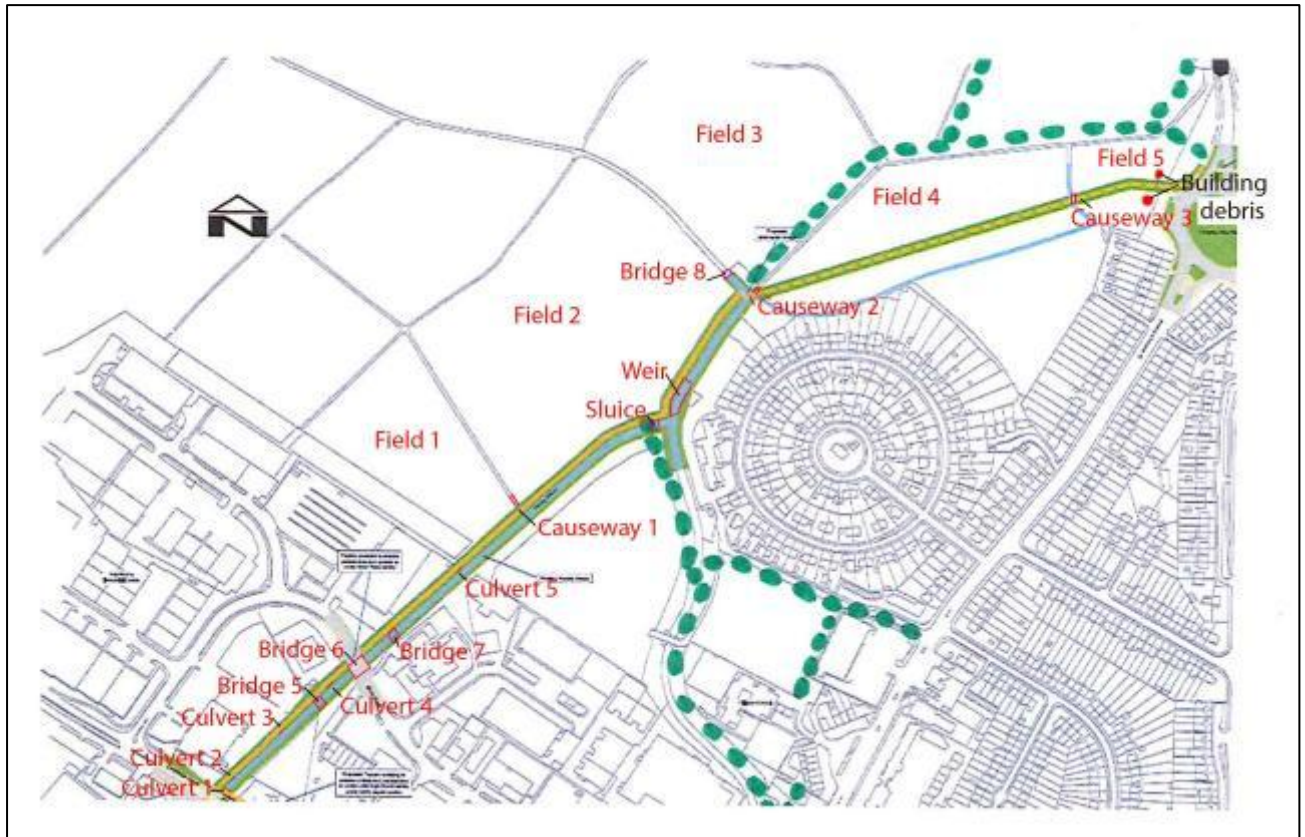


Fig. 25: Eastbourne Cycleway: Site visit map
(Phase 3 cycleway)

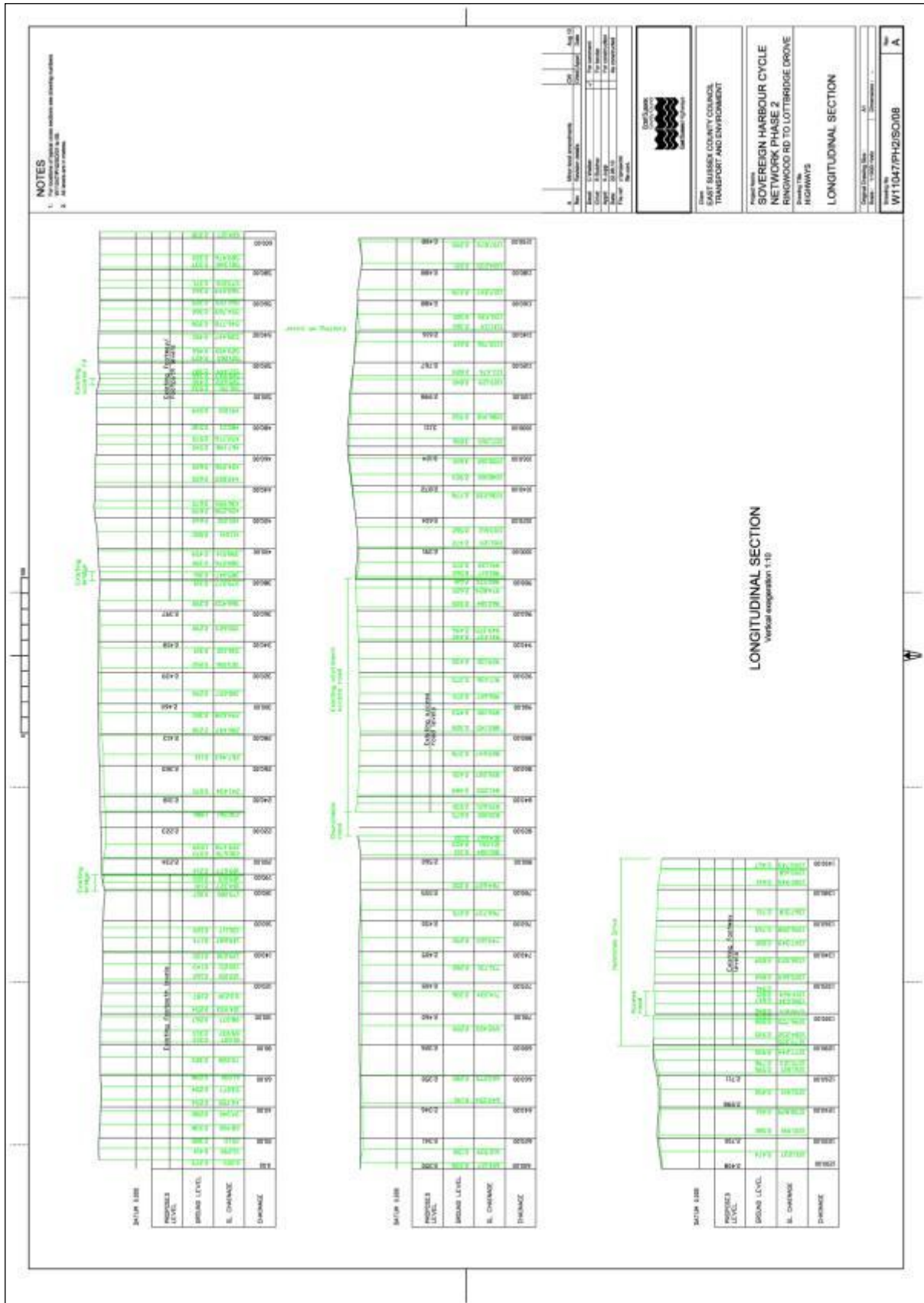


Fig. 26: Eastbourne Cycleway: Design section showing ground level change and impact levels of the Phase 2A cycleway

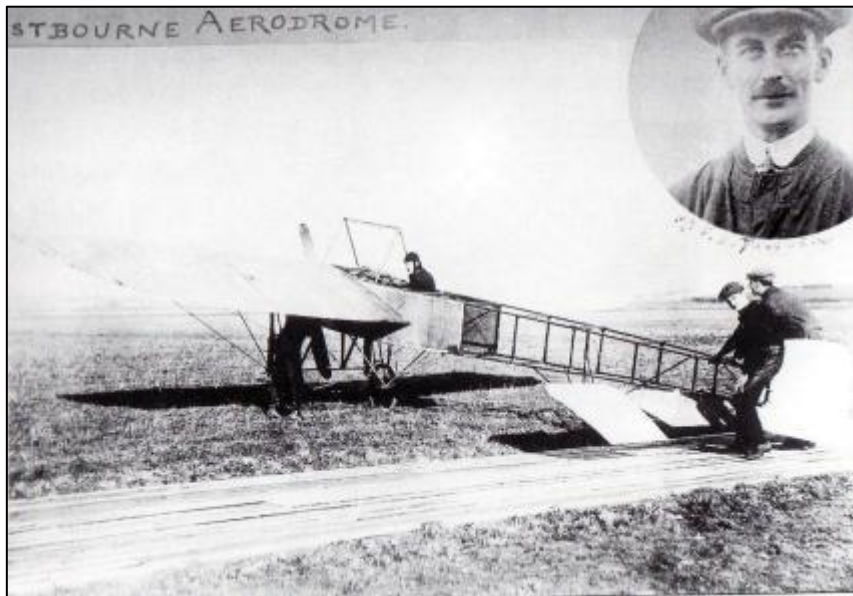


Fig. 27: Eastbourne Cycleway: Photograph of airfield showing boards placed across dykes c.1912
(McMahon, L. and Partridge, M. 2000. *A History of the Eastbourne Aviation Company 1911-1924*)

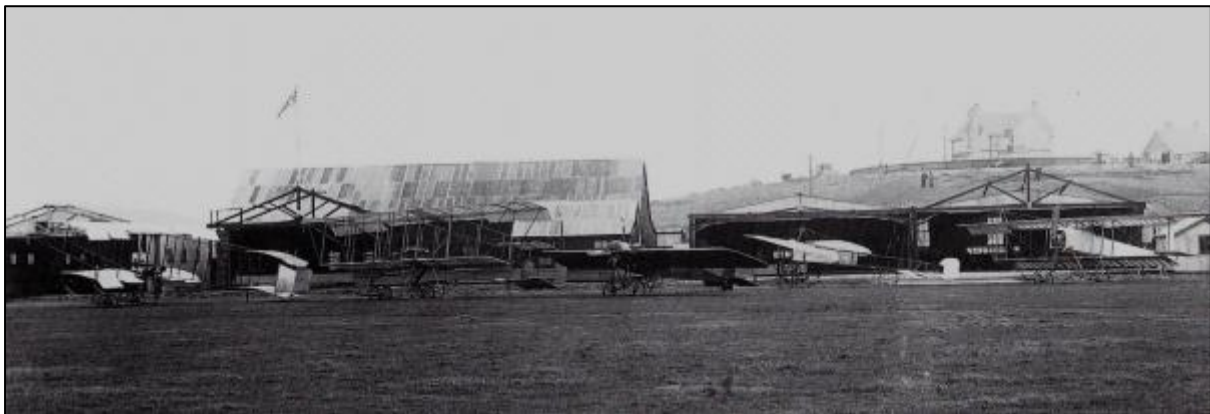


Fig. 28: Eastbourne Cycleway: The airfield in 1913 showing aircraft in front of the engine sheds and hangars with St Anthony's Hill in the background
(McMahon, L. and Partridge, M. 2000. *A History of the Eastbourne Aviation Company 1911-1924*)



Plate 1: Horsey Sewer near northeast end of Phase 2B cycleway



Plate 2: Horsey Sewer along Phase 2B cycleway, looking northeast from Churchdale Road



Plate 3: Bridges of Phase 2A cycleway
(Top: Bridge 1; Middle: Bridge 2; Bottom: Bridge 3)



Plate 4: Possible railway sleepers northeast of Bridge 2 of Phase 2A cycleway

Plate 5: Bridge 4 of
Phase 2A cycleway



Plate 6: Southwest end of
Phase 3 cycleway near
Lottbridge Drove,
looking northeast

Plate 7: Phase 3 cycleway
from Birch Road, looking
northeast





Plate 8: Culvert 1 of Phase 3
cycleway, looking southwest



Plate 9: Culvert 2 of Phase 3
cycleway, looking north



Plate 10: Bridge 5 of Phase 3
cycleway, looking northeast



Plate 11: Bridge 6 of Phase 3
cycleway, looking northeast



Plate 12: Field 1 (background) and
Causeway 1 (foreground) of Phase 3
cycleway, looking southwest



Plate 13: First view of the Levels
beside scrubland in Field 1 of
Phase 3 cycleway, looking north

Plate 14: Field 2 of Phase 3
cycleway, looking northeast



Plate 15: Former sluice beside
Field 2 of Phase 3 cycleway,
looking northeast

Plate 16: Weir-like structure
beside Field 2 of Phase 3
cycleway, looking northeast





Plate 17: Bridge 8 of Phase 3
cycleway, looking north



Plate 18: Crushed metal
container in Field 2 of Phase
3 cycleway, looking east



Plate 19: Field 3 of Phase 3
cycleway, looking northwest



Plate 20: Causeway 2 of Phase 3 cycleway, looking northwest



Plate 21: Field 4 of Phase 3 cycleway, looking northeast



Plate 22: View of St. Anthony's Hill from Field 4 of Phase 3 cycleway, looking south



Plate 23: Field 5 of Phase 3 cycleway, looking northeast



Plate 24: Construction rubble in Field 5 of Phase 3 cycleway,
looking northeast

Appendix 1: Archaeological Sites Recorded on the HER (Phase 2A cycleway)

HER No.	NGR	Period	Type of Site	Notes
MES504	TQ 6268 0103	Medieval?	Remains of boat	
MES507	TQ 61 01	Palaeolithic	Acheuleanhandaxe	
MES512	TQ 6328 0042	19 th Century	Martello Towers 69-72	Removed
MES513	TQ 6285 0159	19 th Century	Martello Tower 68 St Anthony's Hill	Also MES7994
MES516	TQ 6199 0064	Roman	Pit	EES9241
MES621	TV 613 998	Bronze Age	Macehead	
MES5470	TQ 6280 0000	19 th Century	Steamer Nina	Wreck
MES7932	TQ 62900 01300	Post Medieval	Buildings	
MES7947	TV 62164 99897	19 th Century	Barracks	
MES7967	TV 62150 99850	19 th Century	Coast Guard station	1830's
MES7968	TQ 63278 00704	19 th Century	Earthwork and later tramway	
MES7970	TQ 63200 01000	19 th Century	Gravel pit	
MES7990	TQ 6270 0155	WW1	Base of hangar associated with MES7491	
MES7991	TQ 62750 01530	WW1	Guardroom associated with MES7491	
MES8224	TQ 6265 0044	19 th -20 th Century	Boat repair yard	
MES8225	TV 62300 99830	19 th -20 th Century	Bowling club house	
MES8226	TQ 62590 00030	19 th -20 th Century	Rowing club house	
MES8227	TV 62520 99990	19 th -20 th Century	Fishermans club house	
MES8228	TQ 62630 00040	19 th -20 th Century	Two fishermans net stores	
MES8229	TQ 62720 00090	19 th -20 th Century	Four fishermans net shops	
MES8230	TV 62560 99990	19 th -20 th Century	RN Shore Establishment – Sea Cadet HQ	
MES8232	TQ 62900 00400	19 th -20 th Century	Royal Sovereign Bowling Club	
MES8240	TQ 62870 01270	19 th -20 th Century	Queen Alexandra's Cottage Homes	
MES8241	TQ 62790 01260	20 th Century	Tollgate Junior School	
MES8242	TQ 6258 0072	20 th Century	St Andrew's Infants School	

Appendix 2: Archaeological Sites Recorded on the HER (Phase 3 cycleway)

HER No.	NGR	Period	Type of Site	Notes
MES504	TQ 6268 0103	Medieval	Wreck	Remains of a boat dating to the (?) 12 th - 14 th century.
MES513 MES7994	TQ 6285 0159	Post Medieval	Martello Tower	Napoleonic Martello Tower (No 68) on St Anthony's Hill. Demolished c.1925 and the area built over. The tower base is preserved in the cellar of the house and the circular ditch of the former moat is traceable as a road called The Circus.
MES514	TQ 6326 0220	Medieval Post Medieval	Chapel Cluniac Monastery	14 th - 16 th century priory. Incorporated a 12 th -14 th century chapel
MES7019	TQ 63 02	Medieval	Mill	'Langaneaia mill' connected to priory.
MES7491	TQ 62326 01595	20 th Century	Airfield	Flying school airfield. Taken over by the RNAS in WW1. Operational between 1911-1925. Site of aircraft construction by Eastbourne Aviation Company Ltd and repair during WWI.
MES7933	TQ 63150 01960	Post Medieval	Sluice House	Sluice house. Identified at Langney Gate from the OS surveyor's draft of 1813.
MES7949	TQ 63260 01980	Post Medieval	Battery	Napoleonic battery. Identified at Langney from the OS surveyor's draft of 1813.
MES7955	TQ 63840 01010	Post Medieval	Building	Two Napoleonic buildings, possibly guard houses. Identified at Langney Point from the OS surveyor's draft of 1813.
MES7961	TQ 63400 00900	Post Medieval	Firing Range	Firing range at The Crumbles. Identified from the 1 st Edition OS map of 1874.
MES7962	TQ 63800 01500	Post Medieval	Firing Range	Firing range at The Crumbles. Identified from the 1 st Edition OS map of 1874.
MES7968	TQ 63278 00704	Post Medieval	Earthwork Tramway	Earthwork at The Crumbles identified from the 1 st Edition OS map of 1874. Later tramway on earthwork identified from 2 nd Edition OS map of 1899.
MES7969	TQ 63400 01400	Post Medieval	Gravel Pit	A 'Gravel Pit' of the (?) early 19 th century. Identified from 1 st Edition OS map of 1874.
MES7970	TQ 63200 01000	Post Medieval	Gravel Pit	Gravel pit of the (?) early 19 th century. Identified from 1 st Edition OS map of 1874.
MES7971	TQ 63450 01920	Post Medieval	Gravel Pit	'Gravel Pit' at Langney Bridge, of the (?) early 19 th century. Identified from 1 st Edition OS map of 1874.
MES7990	TQ 6270 0155	Post Medieval	Hangar	Base of hangar from St Anthony's RNAS Aerodrome (MES7491). Extant until 1987 storm. Base still visible in 2012.

HER No.	NGR	Period	Type of Site	Notes
MES7991	TQ 62750 01530	Post Medieval	Guardhouse	Guardroom from St Anthony's RNAS Aerodrome (MES7491). Now a bungalow.
MES7997	TQ 63801 00951	Post Medieval	Anti-Tank Ditch Anti-Tank Wall	WWII concrete revetted anti-tank wall / ditch along the rear of the beach between TQ 635 008 and TQ 641 00. Removed.
MES7998	TQ 63400 01500	Post Medieval	Weapons Pit	Two weapons pits consisting of concrete pipe sections. Removed.
MES7999	TQ 63400 01500	Post Medieval	Pillbox	WWII Pillbox of type 25. Removed c.1990.
MES8007	TQ 63870 01600	Post Medieval	Minefield	WWII minefield. Removed.
MES8017	TQ 63500 01300	Post Medieval	Pillbox	WWII Pillbox of unknown type. Removed.
MES8018	TQ 63800 02200	Post Medieval	Pillbox	WWII Pillbox of unknown type. Removed.
MES8223	TQ 63580 01540	Post Medieval	School	The Haven Primary School
MES8240	TQ 62870 01270	Post Medieval	Cottage Home	Queen Alexandra's Cottage Homes. Old people's home. Identified on the 4 th Edition OS map of 1925-1930.
MES8241	TQ 62790 01260	Post Medieval	Junior School	Tollgate Community Junior School
MES15146	TQ 63220 02200	Medieval	Findspot	Lead weight

Chris Butler Archaeological Services Ltd

Chris Butler has been an archaeologist since 1985, and formed the Mid Sussex Field Archaeological Team in 1987, since when it has carried out numerous fieldwork projects, and was runner up in the Pitt-Rivers Award at the British Archaeological Awards in 1996. Having previously worked as a Pensions Technical Manager and Administration Director in the financial services industry, Chris formed **Chris Butler Archaeological Services** at the beginning of 2002.

Chris is a Member of the Institute of Field Archaeologists, a committee member of the Lithic Studies Society, and is a part time lecturer in Archaeology at the University of Sussex, and teaches A-Level Archaeology at Bexhill 6th Form College.

Chris specialises in prehistoric flintwork analysis, but has directed excavations, landscape surveys, watching briefs and evaluations, including the excavation of a Beaker Bowl Barrow, a Saxon cemetery and settlement, Roman pottery kilns, and a Mesolithic hunting camp. Chris is Co-Director of the Barcombe Roman Villa excavations. He has also recently undertaken an archaeological survey of Ashdown Forest and Broadwater Warren.

Chris Butler Archaeological Services Ltd is available for Flintwork Analysis, Project Management, Military Archaeology, Desktop Assessments, Field Evaluations, Excavation work, Watching Briefs, Fieldwalking, Landscape & Woodland surveys, Post Excavation Services and Report Writing.

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