



Historic England

Building the Future, Transforming our Past

Celebrating development-led archaeology in England,
1990-2015





Historic England

Foreword

Developers can cope with most things, but uncertainty is one of the most difficult. One form of uncertainty is the risk of hitting previously unsuspected archaeological remains when you start excavating the foundations of your new building. The public is rightly passionate about our archaeological heritage, and unexpected discoveries during development can lead to a lot of challenges.

However, this risk can now be well managed. This is thanks to the government's policy on Archaeology and Planning ('PPG 16'), published in 1990 and now incorporated into the National Planning Policy Framework (NPPF). PPG 16 put archaeology firmly in the planning process, and established a system for ensuring that any archaeological concerns can be factored into development schemes (and their financing) at an early stage. The work is done on developers' behalf by a highly skilled archaeological profession, overseen by local planning authorities. Some UK commercial archaeology companies are now world leaders in this field.

This approach has served the development industry well since 1990. Today, developers comfortably take archaeology in their stride. It is now very unusual for archaeological remains to cause a fundamental problem for a well-planned new development scheme.

This publication highlights another benefit – to society as a whole – of 'development-led archaeology'. One of the products of PPG 16 has been an extraordinary range of new and very exciting discoveries. These things would probably not have been unearthed at all if it was not for new development – but, without the policies of PPG 16, they might well have been destroyed without record, and thereby lost forever.

Some of these discoveries challenge existing views of England's early history. What particularly excites me is that university researchers are now using the enormous body of development-led archaeology results as the basis for major national research projects, looking at the findings from hundreds of individual development sites. This is partnership at its best: government, the private sector and academia, each doing what they do best, to produce something – new understanding of our history – which is more than the sum of its parts. The public benefits – for education, for place-making, for senses of identity and for tourism – are potentially huge.

It is perhaps not often that the development industry is told it has made a major contribution to the cultural life of the nation. I am proud and delighted that this publication says exactly that. The following pages give a glimpse of how developers of every type, big and small, are adding daily to our knowledge of England's past. I congratulate everyone – developers, archaeologists, planning authorities – whose work has contributed to this. We can all take great pride in this achievement, and I commend this publication to you most warmly.



Melanie Leech CBE
Chief Executive
British Property Federation

25 Years of Archaeology and Development

It is a popular image: archaeologists working against the clock to finish an excavation before the bulldozers move in and destroy the site.

Archaeological discoveries in advance of development often feature in the news. It is less widely known that such work takes place as a condition of planning permission for the development. Furthermore, the actual excavation is conducted by commercial archaeology companies, paid for by the developer and overseen by the local council. This arrangement, known as development-led archaeology, came about only in 1990. The discoveries that have resulted from twenty-five years of such work are rewriting our understanding of England's past.



Archaeologists working ahead of construction, Highcross development, Leicester. © University of Leicester Archaeological Services

Archaeological evidence offers the only way we can tell most of our long story. It is precious, irreplaceable and easily destroyed. In 1990, recognising the impact that new developments can have on buried remains, the government issued guidance on Archaeology and Planning ('PPG 16'). This is now part of the National Planning Policy Framework (NPPF), which covers all aspects of planning in one document. The guidance requires developers to assess and deal with the archaeological effects of developments before planning permission is given. This has transformed the practice of archaeology in England. It removes the risk of costly delays for industry, and has also led to an astonishing range of new discoveries.

This publication celebrates the contribution development-led archaeology is making to the cultural life of England. From media interest, open days at excavations and museum displays, to its impact on the school curriculum, community identities and our national story, the planning policy is having an outstanding and positive impact on society.

1954 to 1989: Crises and Destruction

Between the 1950s and the 1980s, many important archaeological sites in England were destroyed without record, or with only a very inadequate record, by new development.

In 1954 work began on a new office block on a cleared bomb site in the City of London. Archaeologists identified foundations of a Roman temple of the god Mithras, along with some fine marble statues. The development would destroy the temple, and there was a public outcry. The Times was aghast at what ‘other civilised nations’

would think of a country which ‘bulldozed an important antiquity out of existence’.

A Cabinet meeting chaired by the Prime Minister, Sir Winston Churchill, discussed the remains’ future. Faced with having to pay substantial compensation to the developers, the Government



People queued in thousands to see the temple of Mithras excavation. © MOLA.

resisted using existing legislation to save the temple. The owners paid for its foundations to be dismantled and rebuilt nearby. Construction work was delayed at great expense. There was political embarrassment. Knowledge was lost, and the temple reconstruction was described as ‘meaningless’.

Similar scenes could be seen across England in the 1950s and 1960s. In Chester, the 4 metre high walls of a Roman legionary bathhouse were demolished. Historic cities such as Newcastle, York and Winchester lost precious buildings and archaeological remains as post-war urban renewal took off. New towns, motorways and quarries led to many important archaeological sites in the countryside being destroyed without record.

Public concern grew. Around 1970 the government greatly increased the funds available for ‘rescue archaeology’. Professional archaeological teams were created across the country, and many rescue excavations were conducted on threatened sites. This was an improvement, but planning permissions continued to be given without thought to the archaeological consequences. Important remains were being destroyed, and the stretched public purse could save only a fraction of them.

Matters came to a head in 1989. Again, developers were building an office block in London, at Bankside on the Thames. This time the foundations of Shakespeare’s Rose Theatre were revealed: again, the office would destroy the remains. Prominent theatrical figures, including Dame Peggy Ashcroft and Sir Laurence Olivier, joined street protests outside the site. There was heated political debate and the matter was discussed in Cabinet. In the end, the office’s foundations were redesigned to leave the remains intact. The developers showed great goodwill and the Rose was saved.

But the system clearly wasn’t working. England’s heritage needed better protection. Developers needed to be freed of the risks of delay and

public controversy that accompanied unexpected archaeological discoveries. To achieve these goals, archaeology had to work with industry and be securely funded. The government’s solution was *Archaeology and Planning – Planning Policy Guidance Note 16* or, as it became known, ‘PPG 16’.

The new policy was published in November 1990. It recognised the significance of heritage on the ground. Councils should not grant planning permission until the archaeological effects of the developments were clear. If necessary, advance surveys should be carried out. When present, important remains should be preserved if at all possible. In other cases, development could proceed after excavation and recording. Archaeological officers in local councils would assess what was needed, and check that it was properly done. Importantly, responsibility for paying for this work now lay with the developer, not with public agencies.

England was leading the way in Europe. Many of the principles of PPG 16 were reflected in the Council of Europe’s *Valletta Convention on archaeological heritage*, issued in 1992 and eventually ratified by over forty nations.

1990 to 2015: Archaeology and Development

The new policy was imaginative, pioneering and a great success. Developers avoided the risks of unexpected discoveries on their sites, and even small finds offered good local public relations opportunities. Important archaeological remains were preserved intact, or excavated and recorded. Everyone knew where they stood.

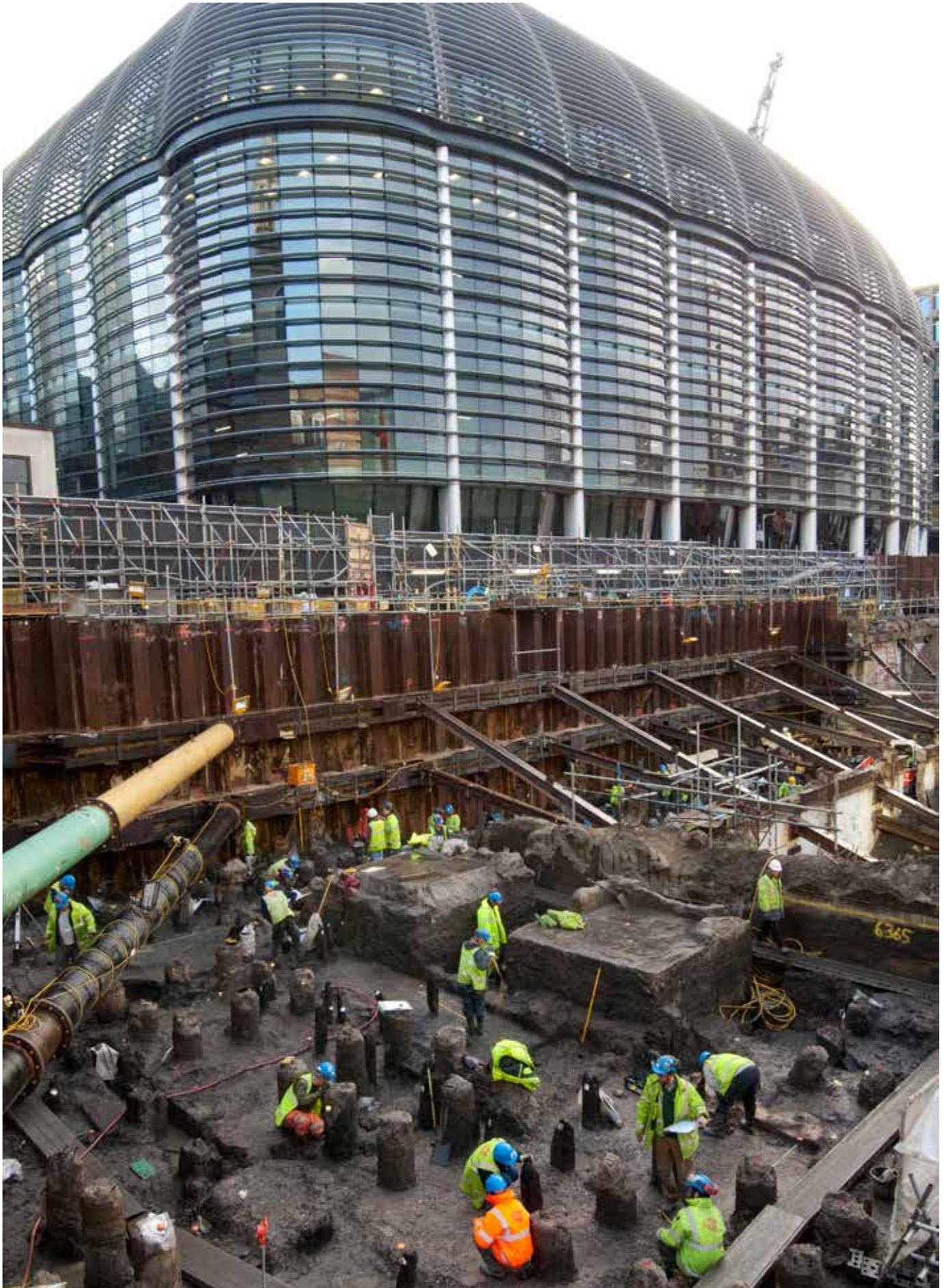
PPG 16 had other important effects. It revolutionised archaeological practice, creating a highly skilled profession now represented by the Chartered Institute for Archaeologists. Development-led archaeology is a team effort. Archaeologists in local authorities decide what is needed on particular sites based on the local Historic Environment Record (a detailed database and map of archaeological sites and finds) and on their expert knowledge. Developers understand what they need to do, and can factor the time and cost of archaeology into their plans. Specialist archaeological companies conduct the site work. Some of these companies are world class, operating internationally as well as in the UK.

As a result, confrontations between archaeology and development as occurred at the Mithras Temple or Rose Theatre have gone. Spectacular finds have been saved and recorded. That had been anticipated, but what was not was the emergence of a new perception of English antiquity as a place of technological

innovation and cultural sophistication with far-reaching contacts.

In 2012 the principles of PPG 16 were enshrined in the new National Planning Policy Framework (NPPF). They were also incorporated in new marine planning arrangements, which control such things as off-shore wind farms and marine gravel extraction. Protecting the archaeological heritage is now an integral part of sustainable development on land and at sea.

All of this affects less than 1 per cent of planning applications. Nonetheless, as a direct result the effectiveness of archaeological practice has greatly increased since 1990. Archaeologists have been excavating in places which were not previously recognised as important, and there has been an extraordinary number of discoveries. Some are of the highest individual importance. In other cases, the cumulative results of more modest findings from across the country are together transforming our ideas about England's past.



Excavations at Bloomberg Place, City of London. © MOLA.

A More Populous Country

The biggest revelation from development-led archaeology is that England was much more heavily populated in the distant past than we had thought. Previously unknown remains of almost every period have been found all over the country, suggesting a large population.

Development-led archaeology excites people's interest in their local heritage, and it is changing our national story. There has been a profound impact on our understanding of England's ancient history, from population levels and cultural sophistication to mobility and networking. Many prior views have been overturned.

Before 1990, most excavations examined major, easy to find monuments – Iron Age hillforts or Roman villas, for example. These are exceptional sites, the places of the elites of their time. By contrast, development-led archaeology can take place anywhere that modern construction works are planned. This often includes areas which archaeologists have never looked at before. Frequently, this leads to unexpected discoveries of more modest remains: the farms, fields and burial

places of ordinary people who would always have made up the bulk of the population.

These discoveries may be the flint implements of early people who lived by hunting and gathering over 10,000 years ago, or left by earlier human species hundreds of thousands of years ago. There may be pits dug in the ground where the first farmers lived. Occasionally remains of these farmers' timber houses are found – development-led archaeology has greatly increased the number of known examples – and small ritual or burial monuments are common.

As the centuries passed, established farms with fields enclosed by ditches became more frequent. In the Iron Age (about 700 BC onwards) there seems to have been a population explosion.



Farmsteads like this one excavated at Iwade in Kent were common in Iron Age England. © Pre-Construct Archaeology.

Large numbers of farmsteads of this era have been found during development work, confirming Julius Caesar's observation that in his time, around 50 BC, Britain was thickly populated.

Under Roman occupation the landscape was fully occupied and exploited. In some areas, only a few hundred metres separated one farmstead from the next. The population of England in Roman times may have been more than two million – perhaps larger than it was in AD 1086, when the Domesday Book was compiled.

Twenty-five years of development-led archaeology have given us a very clear picture: at every stage the early population of England was higher, and more of the land was settled and exploited, than we had previously imagined. This is a major change in how we see our past.

More Mobile Societies

It is easy to think that people in the past, who lacked our modern means of travel and communication, must have lived in isolated communities, rarely venturing far from their home area. Nothing could be further from the truth. Development-led archaeology is providing abundant new evidence for just how mobile and networked our early ancestors were.

A striking example is the Amesbury Archer. The grave of this man, who was buried in about 2300 BC, was found during the construction of new homes in Wiltshire, just a few miles from Stonehenge. The situation was typical of development-led archaeology. For several years Wessex Archaeology, guided by requirements set by Wiltshire Council, has been conducting fieldwork at a major housing development for Bloor Homes, Persimmon Homes, QinetiQ and Defence Estates.

The man had been buried with over 100 objects, including fine pots, copper knives, stone wristguards, gold ornaments, and 18 flint arrowheads – hence his name. The grave is one of the richest of its kind ever found.



The grave of the Amesbury archer contained over 100 objects.
© Wessex Archaeology.

The metal in at least one of the knives came from France or Spain. The stone of one wristguard came from Wales; the other was from somewhere in Europe, as was the gold used in the ornaments. A belt ring was made from Dorset shale found 50 miles to the south. A distinctive antler pin may have come from Switzerland. Most surprisingly, chemical analysis showed that the man himself spent his early years outside England, probably in central Europe. We do not know why he came to England. But his story shows just how complex and far-flung prehistoric networks could be.

The same impression comes from a site at Cliffs End Farm in Kent. This was excavated in 2004, in advance of a housing development by Millwood Designer Homes. Over a period of a thousand years, through the Bronze and Iron Ages, an extraordinary collection of human remains and animal bones accumulated in a large hollow. Scientific studies revealed that several of the people had been born around the western Mediterranean or in Scandinavia – the latter including a young child. There was clearly much movement of people in the past: England has rarely been isolated from Europe.

Development-led archaeology has also given us direct evidence of how people moved. In 1992, when the Highways Agency was building an underpass in Dover, a Bronze Age sea-going

boat was found. The wooden craft had survived because it was in waterlogged ground. It was skilfully built of carved oak planks, held together by yew withies and wooden wedges – it had no metal parts. Dated to around 1500 BC, the boat is now one of the main exhibits at Dover Museum. A reconstruction has toured Europe, and sea trials of a replica were filmed for a TV programme. The discovery generated huge interest and publicity.

Equally remarkable is a group of eight prehistoric canoes, each made from a single tree-trunk, found in a brick pit at Must Farm near Peterborough. The pit is operated by Hanson UK, which commissioned Cambridge Archaeological Unit

to excavate there. Archaeologists found the canoes deep below the ground in what had been a prehistoric river channel. Development-led archaeology has also shown how major river valleys across England were intensively inhabited. Canoes must have been a key means of transport.

In 2003 a grave was found during archaeological fieldwork commissioned by the Highways Agency in advance of roadworks at the Holmfield Interchange, West Yorkshire. Around 200 BC a man's body was laid in a pit large enough to take his complete chariot, equipped with sophisticated iron tyres. Chemical analysis suggested that the man came from Scotland. Much later, the remains



The Holmfield Iron Age chariot burial: the skeleton of a man lies between the wheels of a chariot buried in a large pit. © Oxford Archaeology.



A decorated prehistoric wooden canoe from Must Farm. © Cambridge Archaeological Unit.

of nearly 200 sacrificed cattle were deposited at his tomb. The cattle may have come from a number of different areas, perhaps suggesting commemoration of a widely-famed person.

From a much later time, analysis of fish bones from excavations in London has shown that around AD 1250 locally caught fresh fish were replaced by salted cod from Iceland and Norway. Again, ideas of small, self-sufficient communities are being changed. International trade in commodities is nothing new.

This is a small selection of the evidence obtained from development-led archaeology, which is showing a highly mobile and networked early England. Future discoveries and scientific advances in chemical analysis will undoubtedly lead to more surprising insights into the complex movements and trade networks of our predecessors: artefacts and materials recovered from excavations on development sites will be an important source of samples for these future studies.

More Sophisticated

If England's population was larger, more mobile and more connected than previously thought, development-led archaeology is also revealing how complex, sophisticated and diverse the early country was.

At Must Farm, among the prehistoric canoes, 12 Bronze Age eel traps made of wickerwork were found, perfectly preserved in wet silt. The traps are very similar to ones which are still being used in the Fens today.

Nearby were the extraordinarily well-preserved remains of a Bronze Age settlement. The houses had stood on piles over a river. When they caught fire, they collapsed into the water, where the wet silt preserved everything perfectly. Excavation uncovered pottery bowls still holding the food they had contained when the fire struck, and pieces of very fine textile. The degree of skill with which these fabrics had been made challenges any idea that the people of this time were 'primitive'.

There is other evidence of innovation at unexpectedly early dates. It is commonly thought that properly constructed roads were brought to England by the Romans. In 2009 excavation ahead of expansion of a Tarmac quarry at Sharpstone Hill, Shropshire – whose output is hard-wearing road metal – uncovered a length of carefully built road dating from the Iron Age. This prehistoric route had side drains, was cambered and had been resurfaced at least three times.

Excavations in a gravel quarry run by Pioneer Aggregates at Wollaston, Northamptonshire, revealed Roman furrows of a type described by Classical writers for growing vines; grape pollen was found in the soil. The Wollaston vineyards,



Bronze Age gold bracelets found on the East Kent Access Road. © Wessex Archaeology.

the earliest proof of viticulture in Britain, would have covered at least 11 hectares. This is just one example of agricultural innovation. Other plant foods first seen in Roman England, some grown here, some imported, include figs, olives, peaches, dates, pomegranates, cucumbers, asparagus, fennel, black pepper, almonds and pine nuts.

From a later period, a find from Essex tells of sophisticated craftwork and complex systems of belief. Excavations by Museum of London Archaeology, for a road improvement by Southend Borough Council at Prittlewell, uncovered the burial chamber of an unidentified but wealthy man who died around AD 600. His body had been laid on a bed. Around him over 100 treasures had been placed in the room and on the walls, including items of superb native craftsmanship in precious metals, glass and other materials.

There were also gold coins from France, bronze vessels and a flagon from the eastern Mediterranean, and a silver spoon of Byzantine design. An iron folding stool, unique in Britain, is of a kind used by kings and emperors in early medieval Europe. Finally, in the midst of pagan Anglo-Saxon England, the man had adopted new beliefs. He had been buried with two gold, Italian-style Christian crosses.

These few examples, chosen from many, show how archaeology on development sites is highlighting the skills and ambitions of people in the past. New construction work to meet the complex demands of modern life is also showing us how sophisticated our forebears were.



Glass vessels from the Prittlewell Anglo-Saxon grave. © MOLA.

Telling a Long Story

The broad outlines of England's long story, from prehistoric times onwards, are well established. Abundant and sometimes dramatic new evidence from development-led archaeology is adding greatly to the picture, changing it profoundly, and bringing it vividly to life.

Humans first came to England nearly a million years ago. For all except the last two thousand, we have no written records: archaeology is our only source of evidence. In historic times much was never written down, and many records which were made have since perished. Even in recent centuries, for which there is abundant

documentation, archaeology can add important information. Written history gives us one perspective: archaeology can often tell us much more about everyday lives. For every period of our history, development-led archaeology is proving to be a hugely important source of new and sometimes surprising stories.



Excavating the tusks of the Ebbsfleet prehistoric elephant. © Oxford Archaeology.

Early hunters

There were at least two earlier human species in England before us, most recently Neanderthals. They lived off wild animals and plants, abandoning or colonising the land as the climate changed through successive Ice Ages and warmer periods.

At Ebbsfleet in Kent, meticulous excavation on the line of the High Speed 1 railway uncovered the butchered remains of an extinct elephant, dating back over 420,000 years ago. Everything about this find is exceptional. The elephant species (*Palaeoloxodon antiquus*) is rarely seen in Britain, and this is the oldest known; it is also the only one certainly linked to human activity. The most likely explanation for its death is that early people – long before Neanderthals had evolved – hunted and killed it, perhaps with spears. The debris from making flint knives with which to cut it up lay around the bones

At Lynford Quarry, Norfolk, an archaeological watching brief that was part of Ayton Asphalt's planning consent led to the excavation of the remains of at least eleven woolly mammoths. They were butchered by Neanderthals 60,000 years ago, and there were nearly 50 flint handaxes among the bones.

Remains left by some of the country's first modern humans turned up at the site of a new interchange on the A46 near Newark. Funded by the Highways Agency, excavation uncovered evidence for an open-air campsite made 14,000 years ago. Most discoveries of this age are from caves, but that may be as much because the slight remains survive less well out in the open, and so are rarely found, as because people lacked the skills needed to build outdoor shelters.

After the ice

When the last Ice Age ended 12,000 years ago, Britain was still joined to the European mainland. Forests and grassland replaced tundra as the climate warmed, providing a rich environment for hunters and gatherers from further south to recolonise. A Mesolithic camp of this period, used between 7000 and 5000 BC, was discovered at Stainton on the Carlisle Northern Development Route.

Excavation there by Oxford Archaeology North for Birse Civils Ltd found ancient wood preserved by waterlogging, along with hearths and huge quantities of minute stone tools where people had lived beside the River Eden. Much of the wood had been gnawed – people may have been attracted to a forest clearing opened up by beavers making dams and a lodge. One piece seems to have been clawed by a bear. Detailed study of the preserved wood, which is very rare for this era, stone tools and evidence for the environment is giving the site international significance.

We know very little about how the dead were treated at this time. In 2014 Essex and Suffolk Water laid a new pipeline near Chelmsford. During the work, archaeologists found a pit filled with cremated human bone and charcoal. Radiocarbon dating showed the remains to be over 7,500 years old – a little older than the camp at Stainton.

This is by far the oldest cremation burial known in England. It is the first evidence we have that Mesolithic hunter-gatherers in Britain practised this funerary rite, and understood the challenging pyre technology needed to cremate a human body.

First farmers

Farming first came to the British Isles in about 4000 BC, with sheep, cattle, wheat and barley, pottery and new types of houses. The plants and animals, and at least some of the farmers themselves, crossed the Channel from mainland Europe.

In the past 25 years our understanding of these Neolithic pioneers has been transformed. At Kingsmead Quarry at Horton, Berkshire, archaeologists have been working with CEMEX UK since 2003, to date investigating over 30 hectares ahead of gravel extraction. Among the unusual discoveries have been the foundations of four or five houses raised one after another nearly 6,000 years ago. The group is unique in Britain.

The implication of Neolithic settlement in one place over several generations was surprising, as conventional ideas had favoured mobile communities and little if any permanent habitation. Sites like Kingsmead Quarry are helping us to understand more about how a land of hunter-gatherers became one of farmers – one of the most debated topics in archaeology.

These early farmers built enclosures marked by rings of ditches and banks, apparently occasional meeting places for religious and social events. Sometimes the enclosures were attacked, leaving flint arrowheads embedded in the ground or in human bodies. One such enclosure was unexpectedly discovered in 2015 ahead of new development by Bloor Homes at Thame, Oxfordshire. The site was already known for abundant Iron Age and Roman remains, but the Neolithic enclosure was recognised only when the area was fully excavated. Development-led work can yield important surprises.

Material from Neolithic enclosures has been subjected to a major programme of radiocarbon dating – the largest of its kind in the world – funded by English Heritage (now Historic England) and the Arts & Humanities Research Council.



Neolithic polished stone axe from Stainton, Cumbria.
© Oxford Archaeology.



Kingsmead Quarry, Horton

Top: Archaeologists stand around the foundation of a Neolithic house.

Bottom: How the house may have looked.

Both images © Wessex Archaeology.

Sites studied included four excavated ahead of development: in Essex at St Osyth, and in Kent at Ramsgate and on the Isle of Sheppey, where two adjacent enclosures were found. All significant discoveries in their own right, these enclosures helped to establish a new and much more accurate picture of how farming first came to south-east England from the nearby continent, and then spread rapidly outwards, reaching every part of the British Isles in the next two or three centuries.

Early smiths

The first metalworking in England (of copper and gold) occurred around 2500 BC. It was accompanied by a growing practice of burying people in barrows, mounds of earth created by piling up the material dug from an encircling ditch. One such barrow was excavated by Birmingham University on a Highways Agency road scheme at Lockington in Leicestershire. A copper dagger and two gold bracelets were found – some of the earliest goldwork known from the British Isles.

When alloying copper to make bronze was introduced, the new metal was used extensively for tools, weapons and ornaments – we enter the Bronze Age. Until recently, though, we knew little about where and how these bronze implements were made. At Tremough, Cornwall, ahead of developments by the University of Exeter, the remains of a smith's house were found. This is the first such discovery in England, important for the house itself as well as its contents, and it gives unprecedented information on Bronze Age craft practices.

Great changes in agriculture and society also took place at this time. In parts of England, around 1500 BC large areas of land were divided up into blocks of rectangular fields, crossed by trackways linking scattered farmsteads. One such landscape was explored in detail on the site of Heathrow Airport Terminal 5. The scale of the excavations gave a remarkably full picture of Bronze Age farming communities in a well populated and carefully managed countryside.



The site of an early Bronze Age round barrow with a central grave, Thanet, Kent. © Canterbury Archaeological Trust.

Iron Age warriors

Iron replaced bronze as the main metal for tools and weapons from about 700 BC. Farming continued to expand as the population grew. Development-led archaeology has shown us just how marked these changes were.

Farmsteads and small villages – sometimes enclosed by ditches, with pits for storing grain and circular wooden houses whose foundation trenches survive – have been found during developments throughout England. In a mixed economy people grew grain, reared animals and produced wool. Areas with heavy clay soils began to be settled and farmed more intensively than before.

Researchers at the University of Oxford studied the collected results of large excavations on gravel quarries in the upper Thames valley, north of Swindon. They concluded that between 400 BC and 100 BC many small farmsteads were built in a region which had previously been relatively little used – clear evidence of colonisation.

Other aspects of the economy also grew. Work done as part of DP World's London Gateway container port development investigated so-called 'red hills' at Stanford, Essex. The large mounds of burned soil close to the sea were found to be

waste from boiling brine for Iron Age salt-making. The excavations brought new understanding of this important industry. Salt was a vital commodity in the past, especially for preserving meat and fish, and was traded widely across England. Saltmaking began at Stanford as early as 400 BC and continued into Roman times.

Perhaps fuelled by rising agricultural wealth, a prominent martial aristocracy emerged in England towards the end of the Iron Age. At Brisley Farm near Ashford, Kent, where Archaeology South-East worked for a decade ahead of housing development by Ward Homes and Jarvis Homes, the graves of two warriors were found. The men had been buried a generation apart around AD 10 and AD 40–50 (the time of the Roman conquest). Both had iron swords and fine pottery jars imported from the continent. Soon after their burial, evidence suggests the graves became a place of veneration.

Brisley Farm is just one of a number of late Iron Age sites around Ashford, in an area of clay soils previously thought to have been uninhabited until medieval times. Development-led archaeology has completely changed our knowledge of this area, revealing a dynamic Kentish society, already in contact with the Roman world in the decades before the Roman conquest.



Extremely rare complete iron age swords with wooden handles, from Must Farm, Cambridgeshire. © Cambridge Archaeological Unit.

Roman rulers and British peasants

The Romans conquered much of Britain from AD 43 onwards. They left abundant, long-lasting remains across the country – walled towns, forts, roads, and villas with elaborate mosaic floors. These were the centres and instruments of Roman government and local aristocratic wealth, and attracted most attention from archaeologists in the past. Development-led archaeology has advanced understanding by revealing more about the settlements and lives of the native British farmers and townspeople.

There have been some spectacular individual discoveries. In the heart of the important Roman town of Colchester, Essex, a hoard of gold and silver jewellery was found in excavations when Fenwick developed a department store. The cache seems to have been buried for safekeeping when the British queen Boudica (Boadicea) sacked the town in a revolt against Roman rule in AD 61. The town recovered. Britain's only known Roman 'circus' (chariot racing stadium), recently found there on land being developed for housing by Taylor Wimpey, was built some 50 years after Boudica's attack.

In Roman times Leicester was the capital of a Midlands tribe, the Corieltauvi. On the site of the city's new Highcross shopping centre, finds included a 'curse tablet'. These are lead sheets



Animals walked on these Roman clay tiles before they were fired. Wainscott, Kent. © Canterbury Archaeological Trust

inscribed with pleas to gods for revenge, in this case for the theft of a cloak. The Highcross tablet bore the names of all 20 slaves of a wealthy household. This is a rare find, giving us a potent insight into the lives of Romanised town-dwelling Britons.

In the City of London, a carved stone eagle – one of the finest pieces of Roman sculpture ever found in England – came to light in 2013 during a hotel development by Scottish Widows Investment Partnership and Endurance Land. The eagle would have adorned the tomb of a wealthy person who died in the first century AD. This was in the early days of the Roman city when it was growing rapidly as the capital of the newly conquered province of Britain. The tomb was later demolished, but the eagle was carefully buried, perhaps because it was such a powerful religious symbol.

For many people, Rome means gladiators. In York, in advance of building development in 2005, part of a Roman cemetery was excavated. Most of the buried men had been decapitated. One had been bitten by a large animal, probably a lion, tiger or bear. Others bore sword wounds. This was the first gladiator cemetery to have been excavated in the Roman empire, and the site attracted considerable TV and public interest.

Such discoveries are adding much to our knowledge of Roman towns. Even more has been learned about the Roman countryside and agriculture. Peasant farmers of native ancestry made up an estimated 80 per cent of the population of Roman Britain. Their farms, though numerous, had previously attracted relatively little attention from researchers. Development-led archaeology has changed that completely, with important results.

A project carried out by the University of Reading and Cotswold Archaeology, with funding from the Leverhulme Trust and Historic England, has studied the records of several thousand development-led excavations (some very large,

some quite small) on Roman rural sites. The results have been remarkable, giving us a totally new view of life in the Roman countryside.

Amongst much else, the project revealed that over the Roman era concerns at rural settlements across England shifted from defence to more domestic issues of stock control and property boundaries. After AD 200 cattle became more common relative to sheep, possibly linked to greater trade and movement. Malting and brewing were widespread industries. Roman

England became a peaceful place of trade, prosperity and beer drinking. It was also extremely diverse, with many local differences in farming practices, lifestyles and customs.

This project makes Britain one of the best-understood provinces in the Roman Empire: there has been no other such systematic study based on so much new information. This is another example of how the gradual accumulation of development-led results is allowing new national histories to be written.



The eagle and serpent sculpture from the Minories, City of London. © MOLA/Andy Chopping.

After Rome: Britons and Saxons

What happened in England in the century or so after Roman rule ended in AD 410 is much debated. Did the British peasant population flee? Or did they remain and eventually merge with descendants of Anglo-Saxon incomers from northern Europe? How much actual Anglo-Saxon immigration was there?

Excavations in two quarries, at Horcott in Gloucestershire (for Hanson Aggregates) and Tubney in Oxfordshire (for Hills Quarry Products), found small cemeteries of a kind typical of rural Roman Britain. Some of the burials were radiocarbon dated, with surprising results: they were probably made after the end of Roman rule. Some Roman traditions appear to have continued unchanged, helping to explain why a surviving British population is often hard to detect through archaeology.

A project by the University of Exeter looked at the fate of Roman fields, drawing on results from numerous development-led excavations across England. The research, funded by the Leverhulme Trust, suggests that there was much more continuity than previously thought between Roman and later farming landscapes. For at least some British farmers, the end of Roman rule was probably not the most important thing in their lives.

Anglo-Saxon cemeteries are very distinctive, with bodies or cremations often accompanied by pottery, brooches, weapons and other items. These sites are a rich source of information about communities in post-Roman England. At Saltwood in Kent, three such cemeteries containing a total of over 200 graves were found and excavated when the High Speed 1 railway was being built to link London to the Channel Tunnel. Some of the burials occurred after AD 597, when St Augustine brought



Mass grave of decapitated Viking men, found on the Weymouth Relief Road. © Oxford Archaeology.

Christianity to nearby Canterbury, but they were made in a pagan tradition. Saltwood provides new evidence about this most formative time in English history.

An Oxford-based project, 'People and Places in Anglo-Saxon England', funded by the Leverhulme Trust, studied the evidence from hundreds of development-led excavations. This produced a new map of the country for the period AD 650 to 900. The eastern counties stand out as being especially prosperous at this time. Another important finding is a completely unexpected degree of planning, with settlements and land being laid out on regular grids of standard size. Roman ideas and surveying techniques may have been revived by the Saxons.

Historical documents start to become more common at this time. The Anglo-Saxon Chronicle, a contemporary history, tells us about Viking attacks and invasions in England. But not everything that happened was recorded. A discovery from Weymouth in Dorset shows this in dramatic and gruesome fashion. Archaeologists were present when a new road was built by Skanska Civil Engineering and Owen Williams in connection with the nearby 2012 Olympics sailing events. On a high chalk ridge overlooking the sea, a pit was found filled with human skeletons. Fifty men had been decapitated, their bodies thrown into a heap with their heads piled on one side.

Radiocarbon dates placed the event at about AD 1000, during a time of Viking attacks on Wessex. In a surprising twist, scientific analysis proved the victims of this unrecorded massacre to be Vikings rather than local people. The viciousness of the conflict on both sides is all too clear.

Medieval England

1066, the date of the Norman conquest, marks the start of medieval England. Even though written documents become increasingly abundant now, archaeology still has much to tell us.

Some major industries of later times have their roots in this period. At Coleorton in Leicestershire, work in a modern coal mine, operated by British Coal Opencast, found the remains of complex earlier mine workings, up to 30 metres underground. Around 300 narrow shafts gave access to the coal seam, which was worked in a series of underground galleries. Timbers from the shafts were tree-ring dated from 1450 onwards, and finds included a unique woollen coat used by a miner. This was the first ever detailed examination of a medieval coal mine.

Towns and cities grew rapidly in medieval times. Many of their streets and some of their buildings still survive, but development-led archaeology can reveal the long and varied histories hidden underground and behind façades.

Excavations by Oxford Archaeology for Winchester City Council examined a part of the city which was first developed in late Anglo-Saxon times. It was densely built up in the 1100s, but by the 1300s the area was deserted. Despite being within the city walls, it remained as open land, used for market gardens, until relatively recent times. Long-term cycles of urban building, prosperity and decline are nothing new.

In Canterbury the 'Big Dig' on the site of a new shopping centre built by Land Securities uncovered the foundations of Whitefriars church, once part of a Carmelite friary. Finds included stained glass, parchment, building stone covered with elaborate carved graffiti and a massive stone cess tank. A lead seal with a Latin abbreviation for the name of Pope Nicholas V was probably once attached to an important document. Canterbury was (and still is) at the heart of English Christianity. The Whitefriars excavation,



Medieval stained glass, showing the last rites, from the site of Whitefriars church, Canterbury. © Canterbury Archaeological Trust.



Top: A Medieval lead seal of Pope Nicholas V, Whitefriars, Canterbury. © Canterbury Archaeological Trust.
Bottom: Graves of Black Death victims, found deep in a shaft dug for London Crossrail. © Crossrail.

by Canterbury Archaeological Trust, has given us a detailed insight into an important part of the city's religious history.

Development-led archaeology is also giving new insights into the most traumatic event of the period, the Black Death of 1348–9. This plague probably killed nearly half the population of England. A Black Death burial pit discovered by archaeologists working for London Crossrail in 2013 brought new insights into personal health and nutrition; DNA analysis identified the bacterium *Yersinia pestis* as the cause of the infection. Such research is helping to understand the spread and impact of an epidemic that may have killed more people than any event in world history.

Shakespeare's London and Pepys' navy

The unexpected discovery of the Rose Theatre in 1989, as we saw above, led directly to the present policy for archaeology and development in England. Since then four more of London's nine Elizabethan and Stuart playhouses have been identified, including The Theatre, the first London venue that Shakespeare knew. Two bear-baiting arenas have also been found, contrasting the intellectual stimulation of Shakespeare's plays with the physical spectacle of animals fighting for entertainment.

Development-led archaeology also takes place under water. Work to dredge a new shipping channel into DP World's London Gateway container port in the Thames estuary led Wessex Archaeology to identify a number of shipwreck sites dating from the 17th century onwards. One was the *London*, an important English warship which blew up and sank in 1665, killing more than 300 sailors. Samuel Pepys, a naval administrator at the time, recorded the loss in his diary. The new channel was re-routed to preserve the wreck, now the subject of a major research project.

Industrial prowess

In the 18th and 19th centuries Britain led the world as the birthplace of the Industrial Revolution. This was a time of tremendous innovation. The growth of manufacturing and the expansion of Britain's empire went hand in hand.

Evidence for this pioneering industrial history is, though, fast disappearing. Former industrial sites are 'brownfield land', a priority for redevelopment. Archaeology on these sites is vital for understanding the technological advances and developments of the time, along with the lives of those involved. All of these are often otherwise poorly documented. This work can be challenging, sometimes involving unsafe structures and contaminated ground, but the results amply justify the effort.

In the early 1990s, excavations took place at Riverside Exchange beside the River Don in the centre of Sheffield. The work, by Wessex Archaeology for Wilson Bowden Developments, revealed significant evidence for the city's early industrial expansion. Unique remains had survived from Marshall's Steelworks, established in the 1760s. New technologies used at these works helped to establish Sheffield as a major centre for making steel and cutlery. Analysis of crucibles from the excavations has provided the earliest evidence for technological processes that were closely guarded industrial secrets of their day. The nationally significant remains of three steel making furnaces have been preserved on the site.

Britain became wealthy through trade with its expanding empire, importing raw materials and exporting manufactured goods. Everything was carried by ship, and England's great port cities expanded continually to meet demand. Liverpool became one of the greatest ports in the world. Its Old Dock, built in 1715, was the first enclosed dock in the world. It had long since been filled in and obscured by later structures, but excavation by Oxford Archaeology found the dock walls surviving to a height of nearly 4 metres, now deeply buried

but in good condition. This remarkable survival of a pioneering structure, preserved by the developer Grosvenor, adds to Liverpool's importance as a World Heritage Site.

Naval power was crucial to the expansion of Britain's empire in the 18th century. The history of the navy is well documented, but we knew much less about the lives of its ordinary sailors. Study by Oxford and Cranfield universities of 340 skeletons, excavated from naval cemeteries during developments at Greenwich, Gosport and Plymouth, has revealed a world at the time of Nelson in which scurvy, infections, disease and amputations were common. One skeleton was

probably that of a 'top-man' who fell from high up in his ship's rigging, perhaps during a battle. Another was an 11-year-old boy who may have been a 'powder monkey', carrying explosive charges to the gunners.

From wide technological progress to individual lives, development-led archaeology is enriching our knowledge of a time when Britain was at the very forefront of changes which were to transform the world.



Excavations at the former Royal Dockyard at Deptford, London. © MOLA.

The modern era

Even discoveries of very recent times can be of interest. In York, among medieval and Viking finds from large excavations for Hungate (York) Regeneration, archaeologists from York Archaeological Trust recorded a Victorian communal toilet block. It had only five closets, but served eleven separate households – and, though built in the 19th century, it remained in use until the 1930s. Such finds remind us, in a direct and tangible way, how difficult and uncomfortable living conditions could be even in the relatively recent past.

Sometimes archaeologists uncover remains of dramatic events which occurred within living memory. In 1940 the centre of Southampton was heavily bombed. Among the businesses destroyed was a chemist's shop on the Lower High Street. The stock fell into the cellar below, where it lay undisturbed until archaeologists, excavating the site for Linden Homes ahead of development for its Anglo-Saxon and medieval remains, unearthed it again. This find was a poignant reminder of the destructiveness of war, and of its impact on everyday civilian life.

Archaeology and Communities

Many people are very interested in the history of the area in which they live. Archaeological discoveries on new development sites can help connect people to a place, and to those who lived there many hundreds or even thousands of years before.

This can contribute to a sense of community in new towns and large new housing estates. Opportunities for identification with past lives, rich and poor, craftspeople, farmers and builders, pagan and Christian, migrants and natives, are legion.

There are many ways in which developers can publicise the archaeological work they do. In some cases, the actual excavations can be seen: viewing areas, information panels, open days and guided tours can prove immensely popular. The Canterbury 'Big Dig' was visited by over 55,000 people between 2001 and 2003. Over a few weeks a viewing platform at a Crossrail dig in the city of London allowed 3,000 visitors to watch archaeologists excavating.

Archaeological discoveries during development can generate great media interest, from local to international. When a Black Death burial pit was found on the Crossrail project, it generated world-wide coverage, reaching an estimated 108 million people. This led to increased traffic on the company website and to more inquiries about other aspects of Crossrail. In terms of brand recognition and image, the value of such publicity for a developer is enormous.

Development-led archaeology can also create longer-term legacies. Material may be used to create new displays in local museums or heritage centres. Results can inform publications. The book *Britain after Rome*, in the Penguin History of Britain series, draws on the results of development-led archaeology in London and elsewhere.

Education is a key area. The national history curriculum now covers the whole span of English history, from prehistoric times onwards. There is great potential for using the results of development-led archaeology in this. For example, the history curriculum for Key Stage 3 includes 'Britain's changing landscape from the Iron Age to the present' as a worthwhile topic to study.

The discovery of the prehistoric Amesbury Archer's burial made an impact on the modern community, which voted to name a new pub after the find. Residents live in Archer's Gate and King's Gate (the press named the Archer the King of Stonehenge). They visit the Bowman Centre community hall, and send their children to the Amesbury Archer Primary School.



Modern sculpture of the prehistoric archer whose grave was found at Amesbury, Wiltshire. © Kevin Keatley

Building the Future, Transforming our Past

New development meets our present and future needs: for housing, jobs, infrastructure and more. With the right planning policies in place, there need be no conflict between development and our fragile and important archaeological heritage.

But development-led archaeology does much more than just reducing risks to construction projects. It has transformed our knowledge of England's past, enriching our culture in the process. It is a remarkable success story.

The partnership between archaeology and development has come a long way since 1990. The system reduces risks for developers, ensures that important information about our history is not lost without record and yields significant public benefits.

It works because everyone plays their part. Developers and their specialist advisers agree that archaeology is a matter of public interest which can be handled efficiently through the planning process. Archaeologists in local councils, relying on their Historic Environment Records, ensure that requirements placed on development are well-informed and proportionate. Archaeologists on site can manage large-scale excavations in challenging conditions, completing the work on time and to budget. A professional body oversees archaeological practice.

Other public organisations also have essential roles. Museums curate excavation finds and records for posterity, and can present the findings of archaeology to an interested public. Universities train archaeologists, and conduct research on development-led archaeology's discoveries. Historic England advises on policy, and can become involved in individual cases where scheduled monuments or other particularly important sites are present.

Spectacular finds will continue to catch public imagination, and to add new insights to history. Without prior archaeological investigation, unexpected discoveries would continue to be made, disrupting development programmes and causing controversy.

Planning guidance for archaeology was originally introduced to prevent development crises and political embarrassment. The system has served us well since 1990. A wise policy, a very supportive development industry and skilled professional implementation combine to produce benefits for all.

Development-led archaeology has yielded some extraordinary discoveries, and led to novel insights into England's past. Warm thanks are due to the developers all over the country who have made this possible. It seems fitting that the industry which is building the next chapters in England's history should also be adding so much to the story of our past.

Sustainable new development will continue to take place: it is in the national interest that it should. We cannot predict exactly what archaeological advances will result from future schemes, but they will certainly be many and exciting. England's heritage is central to our identity as a vibrant, modern society, and development-led archaeology is making a rich contribution to our cultural life. This is something of which we can all indeed be proud.



Excavation on a housing site at Pocklington, East Riding of Yorkshire, revealed Iron Age graves inside small square enclosures. © Historic England.

Where to Get Advice

Archaeological organisations

Association of Local Government Archaeological Officers (ALGAO)

ALGAO represents archaeologists employed by local authorities and national parks throughout the UK.

www.algao.org.uk/

Algao.AdminCambs@cambridgeshire.gov.uk

Chartered Institute for Archaeologists (CIfA)

CIfA is the professional body for archaeologists in the UK. It received its Royal Charter in 2014. It regulates the conduct of its individual members, and of archaeological organisations registered with it.

www.archaeologists.net/

admin@archaeologists.net

Council for British Archaeology (CBA)

CBA is an independent charity which brings together members, supporters and archaeology to give archaeology a voice and safeguard it for future generations.

new.archaeologyuk.org/

webenquiry@archaeologyUK.org

Federation of Archaeological Managers and Employers (FAME)

FAME represents the interests of archaeological employers and managers within the profession and the business world in the UK.

www.famearchaeology.co.uk

info@famearchaeology.co.uk

Historic England (HE)

Historic England is the public body that looks after all aspects of England's historic environment.

historicengland.org.uk/

customers@HistoricEngland.org.uk

Society of Antiquaries of London (SAL)

SAL is a charity, founded in 1707 to encourage the study of antiquities and history. Its 3,000 Fellows include many distinguished archaeologists.

www.sal.org.uk/

admin@sal.org.uk

Society of Museum Archaeologists (SMA)

The SMA promotes the interests of archaeology in museums throughout the UK.

www.socmusarch.org.uk/

sma@socmusarch.org.uk

Information sources: searchable on-line databases

Archaeology Data Service (ADS)

Major archive of digital archaeological information, including publications, project archives and databases.

<http://archaeologydataservice.ac.uk>

Heritage Gateway

Integrated access to over 60 local and national databases, including many local authority Historic Environment Records.

www.heritagegateway.org.uk/gateway/default.aspx

Historic England Archive

Catalogue of over 1 million plans, photographs and drawings of England's historic sites and buildings held by Historic England.

<http://archive.historicengland.org.uk/>

National Heritage List for England (NHLE)

The official and up-to-date database of all listed and designated heritage sites, including scheduled monuments.

<https://historicengland.org.uk/list>

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