

◆ The development of the port of Littlehampton, West Sussex, and excavations at East Bank, River Road

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Excavations at East Bank, River Road, Littlehampton revealed a series of alluvial deposits, a late-eighteenth-century chalk well, and a large early-nineteenth-century wharf building, which fronted onto a dock to its west. In the late nineteenth century the dock was infilled and alterations were made to the wharf building. A coal shed was added to the rear and another structure was erected to the north to front River Road. A series of tiebacks retaining a river defence wall dating to the late nineteenth or early twentieth century was also recorded. This paper integrates the findings of the archaeological excavations with cartographic and documentary sources in order to trace the process of wharf building and the subsequent development of the east bank of the River Arun in Littlehampton during the later post-medieval period.

INTRODUCTION

The site occupies a roughly triangular area of land (centred on NGR TQ 0260 0180) on the east bank of the river Arun in Littlehampton, West Sussex. The River Arun forms the south-western boundary of the site, with River Road to the north and Pier Road to the east (Fig. 1). The redevelopment of the site comprised the renewal and repair of existing river walls, the cutting of a new drainage culvert, the extension of Surrey Street towards the river frontage and the construction of new housing and social facilities. The potential archaeological impact of the proposed development was significant and CgMs Consulting, acting on behalf of Bellway Homes Ltd, commissioned Pre-Construct Archaeology Ltd., (PCA) to conduct a trial investigation. This was undertaken between 16 and 29 August 2001 and revealed the eighteenth- and nineteenth-century remains of the harbour arm and revetments. The developer funded a second phase of work from 2 November to 3 December 2001, again carried out by PCA. The location of the excavation trenches was governed by the remains uncovered during the evaluation work and the extent of the proposed development (Fig. 2).

The site is situated on the east bank of the River Arun, approximately 700 m upstream (north) of its confluence with the English Channel. The river is tidal at this point, though the site itself is outside

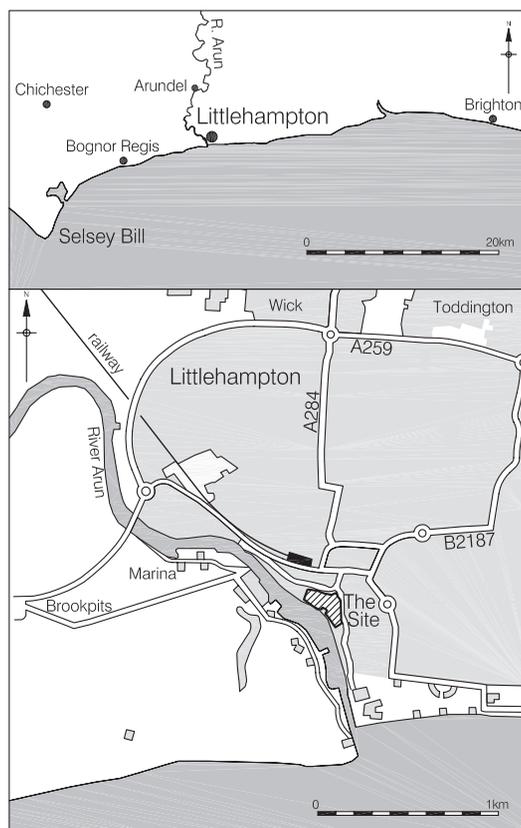


Fig. 1. Site location.

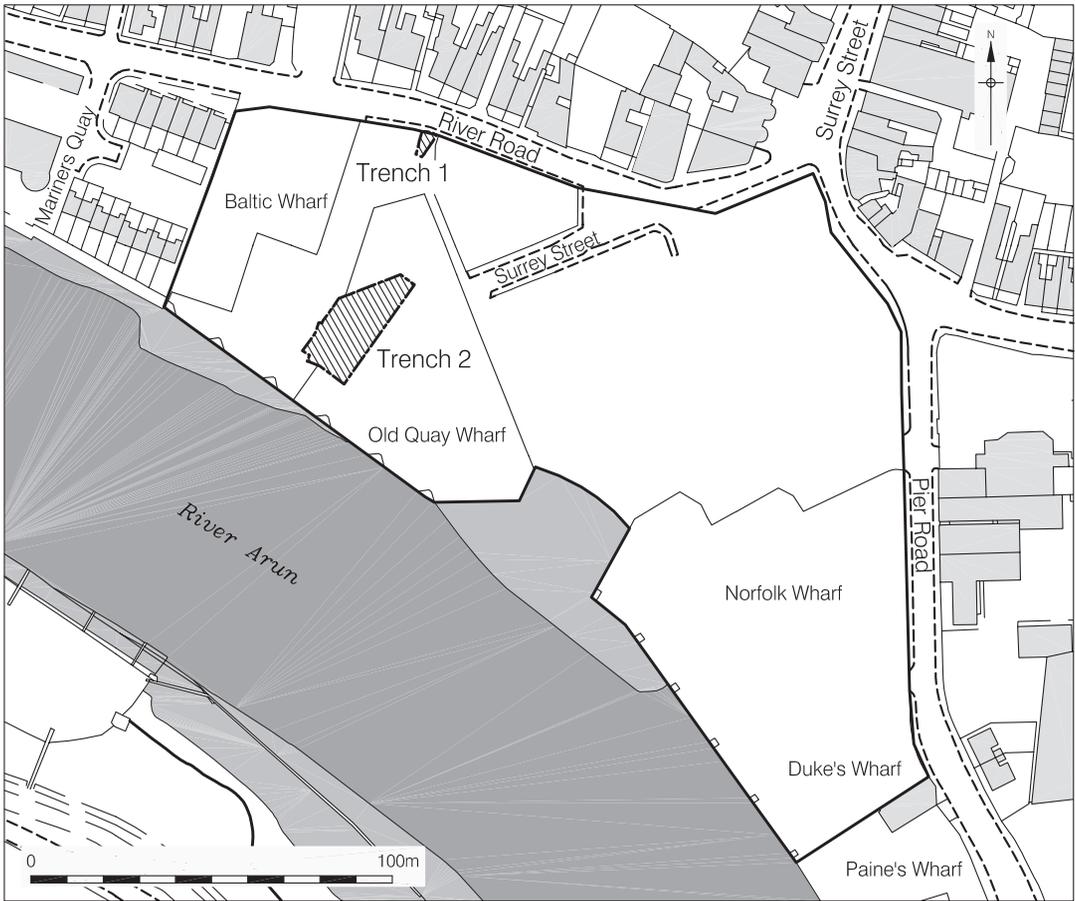


Fig. 2. Trench locations.

the modern intertidal zone through the protection afforded by the modern concrete and steel river wall that extends across the south-western side of the site. At the time of the excavation a small dock and slip area were located approximately midway along the site's water frontage. The area was broadly level from 3.80 m OD to the north-west and south-east, dropping to 3.50 m OD in the centre. In 1996 Ashdown Site Investigation Limited undertook a geotechnical investigation. This revealed chalk bedrock at levels between -2.5 and -4 m OD overlain by river alluvium at between 3 and 1.5 m OD, the alluvium in turn sealed by deposits created during wharf-building. Occasional bands of peat which may represent palaeo-landsurfaces were recorded within the alluvial sequence.

HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

There is a paucity of evidence for prehistoric activity from the area surrounding the site. The only find of note was recovered during an archaeological evaluation at Floyds Corner, which recovered a single worked flint (SMR Ref: 5642 WS 4374). The date of this struck flint is uncertain, and whilst a prehistoric date is possible, it may also have been napped for building purposes in the post-medieval period. Evidence for an Iron Age occupation comes from east of Horsham Road which by the second century was succeeded by a winged corridor Roman villa, and other Roman remains are known from the Fitzalan Road/Maltravers Drive section of town (*VCH* forthcoming). Elements of a number of farmsteads

have been found, as has a coin of Constantine (SMR Ref: 2167 WS 5734), although the context of this find is unknown. It is possible therefore that the later Saxon settlement was preceded by an earlier Roman farming settlement.

The settlement of Littlehampton is mentioned in the *Domesday* survey of 1086 as *Hantone*, a one-hide estate held of Roger of Montgomery, Earl of Shrewsbury, by a tenant called William, probably as part of the manor of Climping. It had been the property of Countess Goda in the 1060s. It was a small, poor place in which only one plough, two cottars and one acre of meadow were mentioned in the survey (Williams & Martin 2002, 60). The church was presumably built later. To the north Earl Roger built a castle at Arundel. The prefix *Little* was first applied in about the fifteenth century to distinguish the place from the much larger *Hantone* at Southampton (Friel & Fardell 1998, 7).

The inhabitants largely lived by agriculture and fishing prior to the eighteenth century, although fishing was probably nobody's sole profession before the nineteenth century. By 1869 there were 189 fishing boats working from the town (*VCH* forthcoming). The settlement was built on a low-lying tongue of land adjacent to the sea coast, almost isolated from the surrounding areas by the marshy channels of the River Arun to the west and the Black Dyke to the north. The main access route was through Angmering to the east. There may have been a road along the line of High Street at an early date leading to a ferry across the Arun. The road running north to Arundel may not have been established until the seventeenth or eighteenth century (Thompson 1974, 11; Elleray 1991). The houses of the settlement probably clustered around the church, and would certainly not have extended south of the line of the later New Road, the limit of the relatively higher ground lying above the level of the marshes.

The settlement and its fields required protection from the seasonal floodwaters of the Arun and the sea. River Road and Pier Road represent the lines of the medieval and early modern river embankments and originated in paths along their crests. The earliest deposits excavated in Trench 1 were probably on the seaward side of the embankment, while the alluvial deposits excavated in Trench 2 probably lay in the River Arun in the medieval and early modern periods. Fishing and trading vessels were presumably beached on the foreshore

here, but there is no evidence for wharves or shipbuilding at this period. As a part of the port of Arundel the village of Littlehampton was involved in the export of wool to Flanders, but its fortunes declined in the fifteenth and sixteenth centuries (Brookfield 1955, 35).

DOCUMENTARY AND CARTOGRAPHIC EVIDENCE

MEDIEVAL LITTLEHAMPTON

Littlehampton appears to have had few if any port facilities until the fourteenth century as in 1326, pigs and bacon from the area of the town were transported by road to Shoreham on their way to Dover Castle rather than by sea (*VCH* forthcoming).

SIXTEENTH, SEVENTEENTH AND EIGHTEENTH CENTURIES

In the early modern period Littlehampton remained the size of a village with a population of about 150 in 1642. Based on the evidence of a manorial survey carried out in 1671/2, it has been estimated that there were then only 14 dwellings there besides the manor house. In 1724 there were 30 families living in the parish (Daggett 1998, 2, 30, 31) and a map of about 1736 shows the houses of the village grouped in a few small streets to the south of the church (Fig. 3. NB Labelling on all historic maps follows original spelling), and two isolated structures at the ferry landing (TNA MR1/915). During this period the trade of the port served only a small and poor hinterland (Brookfield 1955, 35).

The manor of Littlehampton was purchased in 1712 by the Duke of Norfolk, whose main residence was at Arundel Castle, four miles to the north, and the manorial rights included dues collected from vessels loading and unloading goods in the harbour (ACA MD 163). In the course of the eighteenth century there was probably some small-scale industrial development along River Road, and in the area of the later Surrey Street and Town Quay, immediately to the south-east of the excavated site. A predecessor to Surrey Street was in existence by 1672, and a causeway was constructed in 1736–7 from the end of Surrey Street to the new Quay. The latter was 45.7 m (150 ft) wide. However, Littlehampton remained primarily an agricultural settlement until the second half of the century. Officers to collect royal customs were not stationed



Fig. 3. Redrawn from c. 1736 Map, scale approximate (traced from TNA MR1/915).

at Littlehampton before the late seventeenth century (*VCH* forthcoming).

The perennial problem of Littlehampton as a port was the tendency of the river mouth to choke with shingle and drift to the east under the influence of the sea currents; the medieval river mouth was further to the east than the present channel. The Earl of Arundel channelled the River Arun in the 1570s to run closer to the base of Arundel Castle, shifting the focus of port operations to Arundel town. A new cut was made

for the river mouth in 1574, and re-cut through the beach in the parish of Climping in 1628 and 1657. However, the debouchment of the river into the sea remained a multi-mouthed delta. This is how it appears on a map of 1671/2, when a new channel was proposed (LM M045), and a map of 1698 (WSRO MP 152). By 1587 a defensive fort was considered, and may indeed have been built, as a French ship was chased off in 1695 with cannon fire from an emplacement near modern Bayford Road. The harbour anchorage continued to deteriorate:

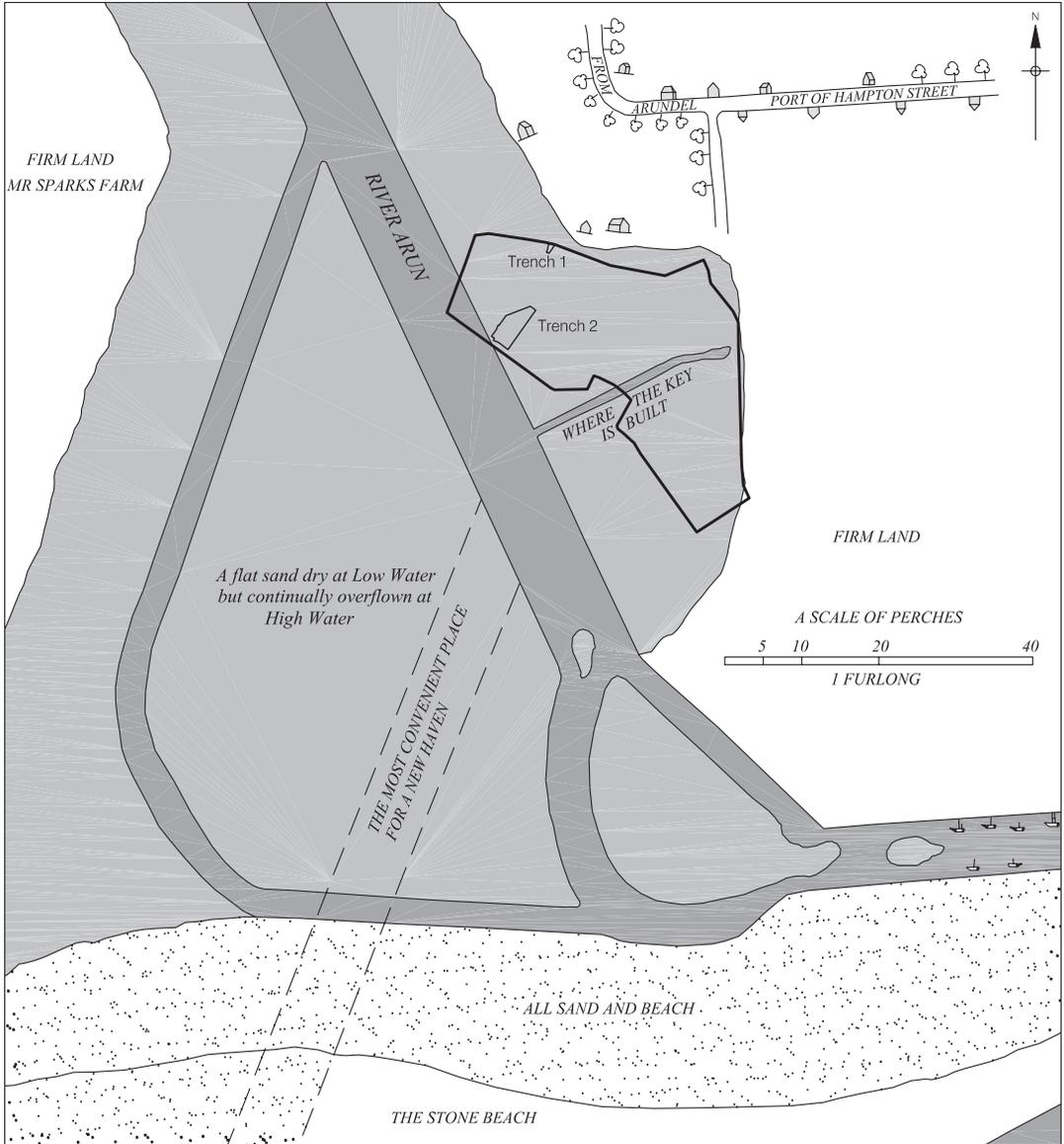


Fig. 4. Redrawn from 1671–2 map, scale approximate (nineteenth-century copy) (LM M045).

by 1710 it was only usable for ships drawing less than c. 2.4 m of water. By 1730 there was only a depth of 1.5 m of water in the harbour at high tide, making access by modern ships impossible. An Act of Parliament for the improvement of the harbour was passed in 1733. As a result, in 1733–5 a new straight, north-south channel, protected from the drifting shingle by two piers running into the sea, was dug for the river mouth through the Duke of

Norfolk's lands and largely funded by him (*VCH* forthcoming). A five-gun battery was constructed to protect the new harbour, probably west of modern Beach Crescent. Further harbour improvement Acts followed in 1793 and 1825, extending the piers and deepening the harbour. A replacement fort and battery with upgraded gun provision was built to protect the harbour in 1759–60 on the east bank to the south of the town. This was part of an

upgrading of military defences along the Kent and Sussex coasts (*VCH* forthcoming), but was removed in the 1830s. A fort was built on the west bank in 1854, but was hardly used and was eventually demolished in c. 1900 (Dally 1828, 229–30, 236; Farrant 1976, 12–13; Elleray 1991). The hinterland was opened up further in 1785 when the River Arun was improved upstream from Arundel to Pulborough and Newbridge (Brookfield 1955, 36; ACA MD 163).

On a map of Littlehampton harbour apparently drawn in 1671–2, the foreshore appears as undeveloped sand flats between the embankments and the river channel. The vicinity of the excavated site is marked ‘Where the key is built’ near two isolated structures, so the Town Quay may have been built here by this time. However, the extant map is a nineteenth-century copy so it is not certain that the inscriptions are original (LM M045) (Fig. 4). A plan of Arundel port in 1698 shows the river curving to the east to the south of Littlehampton church, with a delta of sand bars crossing the beach. The area of the excavated site is indicated as shingle (WSRO MP 152). On the map of c. 1736, the newly-canalized river-mouth is shown and the excavated area appears as part of the ‘ouze’ between the embankment and the river channel. On a small-scale map of the Sussex coast drawn in c. 1750 the canalized river mouth also appears, and the redundant former channel of the river curves eastward in a loop to the south of Littlehampton church and into the sands, evidently cut off by the new works (LM M012). The depiction of Littlehampton harbour on a plan of a similar date shows the same channels, with the Shelf, a sandbank in the centre of the river to the south of the village (ACA PM 163).

The exact positions of the embankment and the channel at this time are uncertain, owing to the absence of an accurate large-scale plan. The foreshore was probably regarded as ‘waste land’ of the manor of Littlehampton and Toddington. As such, it belonged to the Howard family, Dukes of Norfolk and Earls of Surrey, after their acquisition of the manor in 1712, although the tenants of the manor may have had some common landing rights over it. Beyond the river embankments the foreshore of the excavated site remained undeveloped until the early nineteenth century.

In 1758–9, 1762, 1770–71, 1783–4 and 1793 the Duke of Norfolk paid for repairs to the river

wall at Littlehampton and also to the storehouses there. These works involved bricklaying, carpentry, ironwork and tiling, and in 1793 the importation of a bargeload of chalk to infill behind the river wall. The storehouses were probably the two structures on the Town Quay. One of them was called the North Store, and had a planked revetment or ‘campshed’ to its rear (ACA MD 177).

A map of c. 1790 is the earliest large-scale plan of the town to survive. On this map the foreshore appears as no 23, with a scatter of small sheds and listed in the accompanying reference table as the 13-acre ‘Tenants’ Slippe’, owned by the Earl of Surrey. Perhaps these sheds, possibly fishermen’s huts, were related to a well recorded in Trench 2 during the excavation. Houses were built along the lane later called Surrey Street from the mid-eighteenth century onwards. Inscriptions on buildings there date their constructions to 1761, and one possibly to 1705. The lower section of the street between Floyd’s Corner (tithe map nos 297–9) (Fig. 5) and the entrance to the Town Quay or Fisherman’s Hard is the oldest part, and in the early nineteenth century was the location of the residences of the chief shipbuilding and shipowning families, such as the Isemongers, the Corneys, the Carvers and the Robinsons (Thompson 1974, 13, 59; Daggett 1993, 5). The latter were, with Joseph Robinson, to become the largest shipowning family in town in the nineteenth century, although his vessels rarely visited their home port (*VCH* forthcoming). In 1784 the Earl of Surrey made a payment to Francis Bowman for setting out houses, including the two Carvers’ houses; this payment probably relates to the development of Surrey Street (ACA MD 177). This street was probably named after the Earl of Surrey who was resident in the town in the 1830s (Thompson 1974, 12). It became the site of the annual town fair held on May 26 (Daggett 1993, 4). Following the eastern bank of the river Arun in the eighteenth century was a track which from its junction with Surrey Street ran south and later became Pier Road (*VCH* forthcoming).

NINETEENTH CENTURY

The town of Littlehampton grew rapidly in the nineteenth century, spreading outwards from a core around the church, High Street, River Road and Surrey Street into new streets of suburban housing (OS maps 1:2500 1876 and 1898). The population of the town increased from 584 in

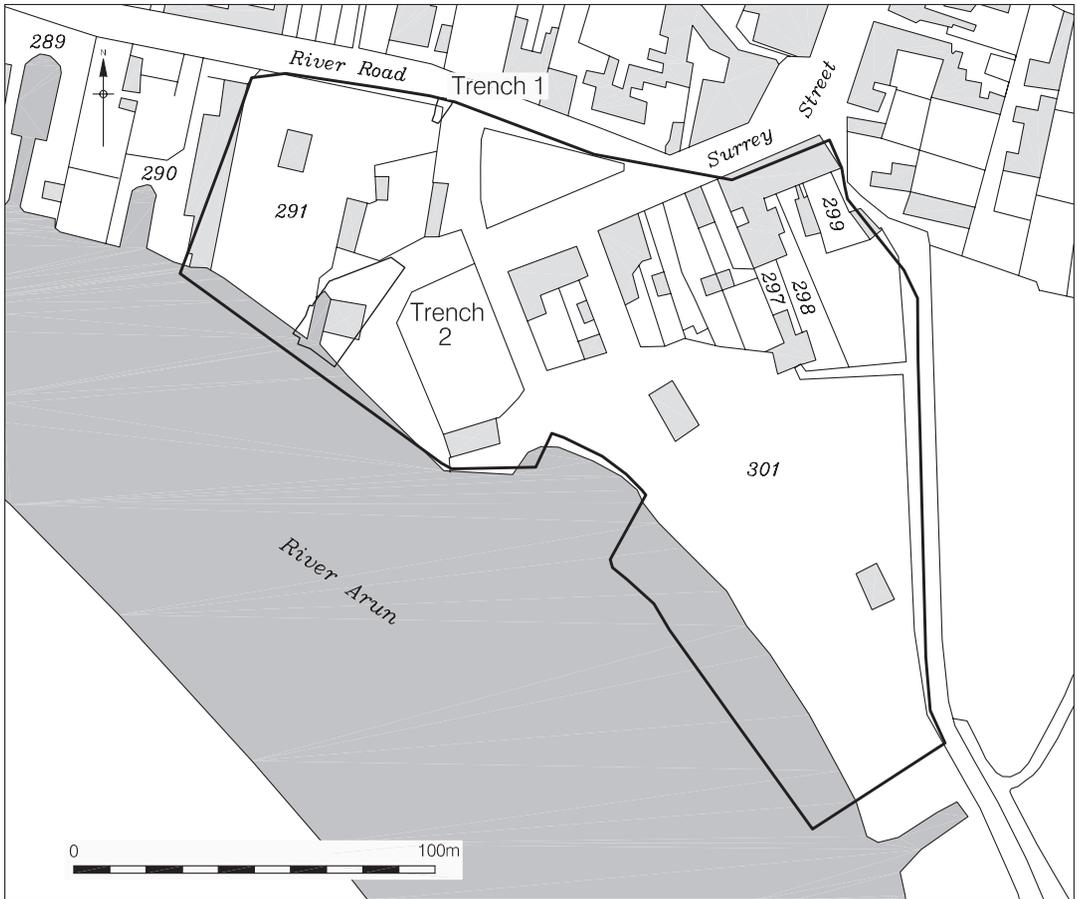


Fig. 5. Redrawn from 1841–2 Tithe map (WSRO T/W78).

1801, to 1166 in 1821, 2270 in 1841, and 5954 in 1901 (Dally 1828, 237; Elleray 1991; Friel & Fardell 1998, 7). The motor for this growth was largely the development of the town as a seaside resort, which mostly took place in the beach area to the south-east of the town core. It began in the 1780s and 90s with the introduction of bathing machines on the beach which were lowered into the sea by means of windlasses and were leased out by the Duke of Norfolk, accompanied by the construction of lodging houses (Dally 1828, 235; ACA MD 783). The road through the town from Brighton was turnpiked in 1825, and in 1863 Littlehampton and its harbour were linked to the rail network, which opened the way for further expansion. A cross-Channel boat service to the Channel Islands and Honfleur was begun by the London, Brighton and South Coast Railway (LB&SCR) and continued

to operate until 1882, bringing nearly 20 years of prosperity to the town (Brookfield 1955, 38; Elleray 1991).

At the beginning of the nineteenth century the only wharf was still the Town Quay at the end of Surrey Street. Further quays had been built by 1825 and a series of warehouses and workshops were added in the 1830s and 1840s (Farrant 1976, 14; Elleray 1991). Canal links to the port were improved by the digging of the Arun-Wey Canal in 1813–16, and by the opening of a canal along the Sussex Coastal Plain in 1817. These canals carried the traffic of agricultural produce, stone, coal and timber into the hinterland (Brookfield 1955, 36). Alderney cows were unloaded with beam, block and tackle at the Old Quay in the early nineteenth century (Thompson 1983, 19). Littlehampton now became more prominent than Arundel in its port

function, although the Customs House was still at Arundel in 1828, and was only transferred to Littlehampton as late as 1869. A railway wharf 137.2 m (150 yds) long was built by the LB & SCR in 1863 on the east bank to the north of the ferry, adjacent to the railway station and to the north-west of the excavated site (Dally 1828, 230; Farrant 1976, 31, 33; Elleray 1991).

In 1804 there were two shipbuilding firms in the town, Corney and Carver, and Isemongers, employing 36 men between them. Thomas Isemonger had begun making sloops for the Royal Navy in the 1770s. The brothers Thomas and Richard Isemonger both had shipyards between River Road and the river in the 1820s (tithe nos 289 and 290) (Fig. 5), and they both had houses in Surrey Street in 1841. Richard also had a ropery in East Street. Richard Isemonger generally was the sole owner of his ships rather than owning shares in vessels (*VCH* forthcoming). John Corney's shipyard was to the south-east of Town Quay (tithe no. 301) (Fig. 5), where he built two eighteen-gun sloops in the Napoleonic Wars. He lived in River Road, held a great deal of property in the manor of Littlehampton and donated annuities of £20 to the Vicarage and £18 for the education of poor children in the parish (*VCH* forthcoming). His business partner was Jeffrey Carver, in whose will John Corney appeared as a trustee. Jeffrey was followed by the shipbuilder George Carver, the harbourmaster Robert Carver, and his son the shipwright Richard Carver, who all lived in Surrey Street. In the 1820s there were several shipyards on the banks of the river capable of building wooden vessels of several hundred tons burden for sea-going commerce, especially the West Indies trade. After the end of the Napoleonic wars there was a period of depression in the industry until a revival in the 1830s. The Isemonger, Corney and Carver families were followed in 1837 by Stephen Oliver on the west bank of the river to the south of the ferry; his shipyards were leased to Henry Harvey in 1846. Shipbuilding remained a major component in the local economy until the middle of the nineteenth century. Harvey's firm continued until 1921 (Dally 1828, 230, 233, 236; Brookfield 1955, 41; Thompson 1974, 11, 14, 16, 19-20; Thompson 1983, 6, 16, 19, 58; Elleray 1991; Daggett 1993, 5; Friel & Fardell 1998, 8; WSRO Add MS 19712).

The shipbuilding industry was connected to an initiative of the Howard family to develop the

remainder of the foreshore, which was classified as manorial waste. Parts of the waterfront were let out on 99-year leases by the Duke of Norfolk to the two main shipbuilding families in 1822, and were developed by them over the next few years with wharves and storehouses. Residential development was limited to two houses per plot. An irregular plot to the north-west of the Town Quay, including the excavated site, was leased to George Corney, son of John (tithe no. 291) (Fig. 5). The next plot to the west was leased to Richard Isemonger (tithe no. 290) (Fig. 5); and the plot beyond, c. 141 m (154 yds) long (tithe nos 286-9), to Thomas Tupper Isemonger in October 1824, following a draft lease of 1822. Richard's plot later included a shipbuilding dock. Thomas went bankrupt in 1830, and his shipyard was divided and sold, the eastern part passing to another Thomas Isemonger, and the western part to William Holmes. The eastern part contained a shipyard and a dock. Holmes's portion consisted of three unused wharves in 1841 and was later taken over by Samuel Evershed (Daggett 1993, 5; ACA FC 169, HC 232; WSRO TD/W78).

The irregular piece of land adjoining the River Arun was let by the Duke of Norfolk on 30 September 1822 to George Corney as a shipbuilder. (ACA EO/D2 no. 178; WSRO Holmes & Campbell MS 813). In the next five years Corney spent £700 on improvements to the property and erected a storehouse and other buildings on it. He appears to have developed his plot shortly after having acquired it. Elements of this development were recorded during the excavation.

The excavated building and the outline of the dock appear on a plan of Littlehampton Beach and the adjoining area in March 1825 (ACA H2/12), although they are not shown on plans of Littlehampton harbour by Jesse Hartley in 1825 and James Teasdale in 1826 (LM M040, M043). They are shown on an Admiralty chart of 1830, although the area to the west of the dock still appears as not wharfed (LM M091). They are also shown on a map of the Arundel district in 1839 (ACA H2/21 no. 1), the tithe map of 1842 (Fig. 5), and a similar map of about the same date (BL Add MS 31323 S³, photograph at LM M013). These plans all suggest a pointed north end to the dock.

In the tithe survey of 1841, plot 301 was still operated by John Corney senior as a shipyard (WSRO TD/W78). Another Corney had sail lofts in River Road that were destroyed by fire in 1865

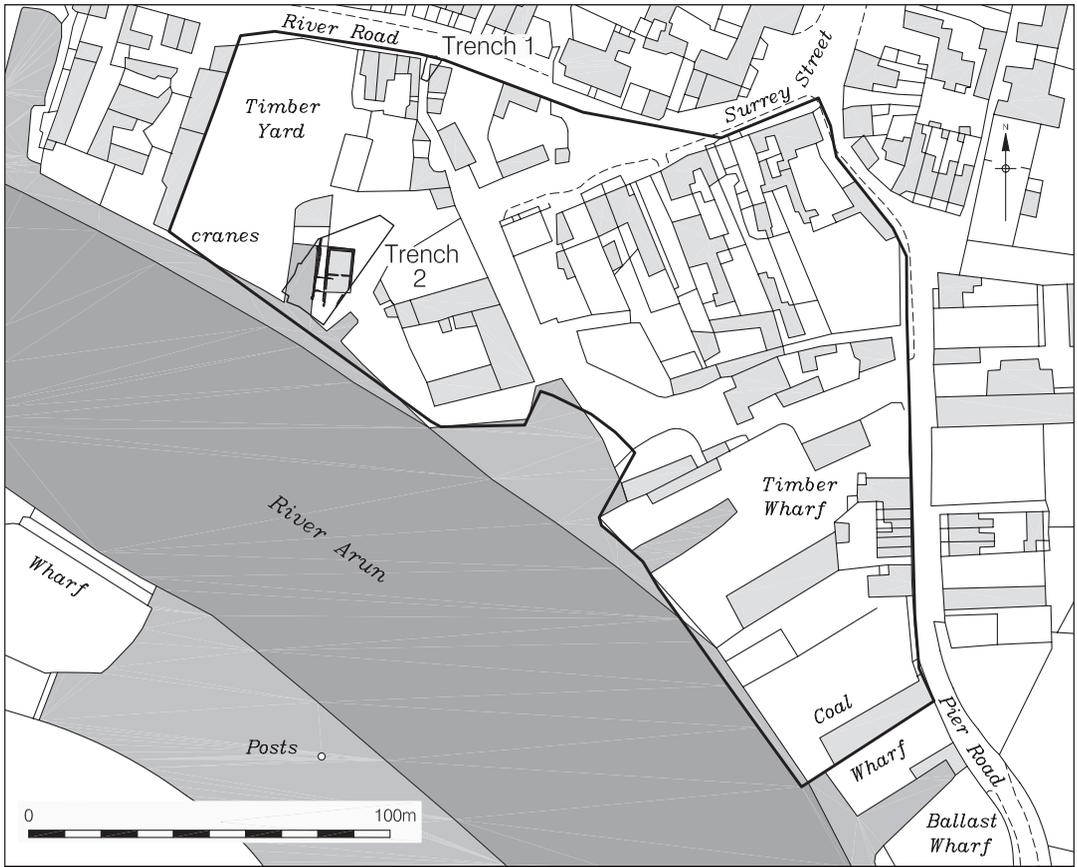


Fig. 6. Redrawn from 1876 Ordnance Survey Map (63.14).

(Thompson 1983, 47). George Corney took over his father John's leases in 1841, including his arrears of rent to the Duke of Norfolk (ACA HC 232). In the tithe survey the excavated site appears as part of plot 291, occupied by George Corney as a quay and coal yard with storehouses. To the west Richard Isemonger's plot 290 had also become a coal yard and wharf (WSRO TD/W78) (Fig. 5).

By his will of 18 May 1848 George Corney left his yard to his wife Sarah Corney and in trust to two friends, William Shaft and George Sparks (WSRO Holmes & Campbell MS 813). On 31 October 1849 they assigned the remainder of the lease to Samuel Evershed and George Corney, merchants. The excavated building and dock lay in the half that passed to Samuel Evershed. It may have been at this time that alterations were made to the dock. Plans attached to the property deeds of 1855–7 show it with a squared north end,

rather than with the previously-mapped pointed form. It also appears to have been widened to 7.92 m (26 ft) at its mouth onto the river, possibly to accommodate larger coal barges associated with its change in function, then being part of a coal yard and storehouses. This was reflected in the excavation by additions made to the eastern dock wall. A brick wall in English bond and orientated north-south extended from the timber dock wall into the northern limit of excavation. The wall was 0.22 m wide, with a maximum exposed height of 0.86 m. A further small brick wall, interpreted as a slightly later reinforcement or repair, was built up against the western face of the brick dock wall.

By an agreement of October 1851 between the Harbour Commissioners of the Port of Arundel, the Duke of Norfolk and the owners of adjacent properties, the wharf at the end of Surrey Street was designated a public landing-place and standing

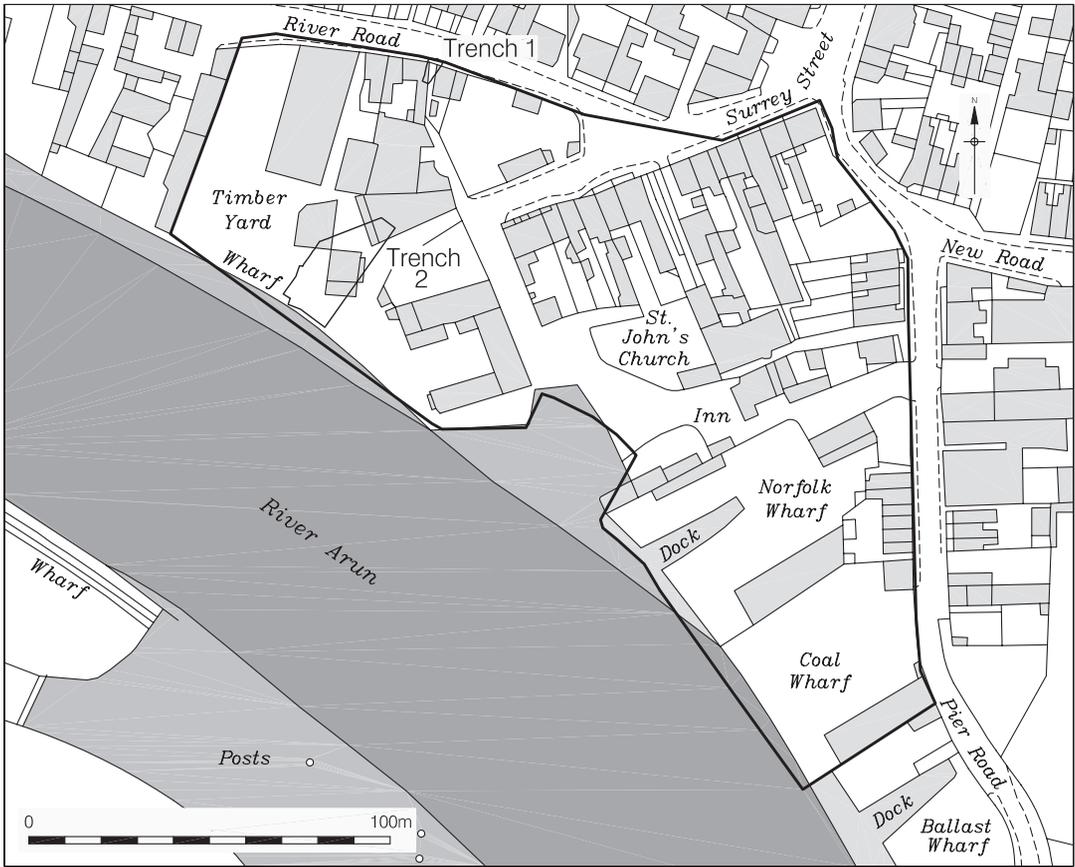


Fig. 7. Redrawn from 1898 Ordnance Survey Map (63.14).

for boats (Thompson 1974, 11; 1982, 21). This was the former Town Quay, between the leasehold properties formerly of John Corney and George Corney, and was later called Fisherman's Hard.

In the later nineteenth century the harbour entrance at Littlehampton was again improved, and there was extensive building of wharves and warehouses, including a concrete quay on the east bank along the line of Pier Road. Steam vessels only began to use the port in c. 1900, by which time it was lagging behind contemporary developments in the cargo trade (Brookfield 1955, 39–40; WSRO MP 152).

The excavated building and dock were still shown on a sketch map of the River Arun in 1865 (LM M035), a sewer map of the town in 1866 (ACA H2/14), the Ordnance Survey map of 1876 (Fig. 6: OS map 1:2500, 1876, 63.14), and an Admiralty chart of 1887 (LM M007, M020). However, the dock does not appear on the Ordnance survey map of

1898 (Fig. 7) (OS maps 1:2500 1898, 63.14). The dock on the excavated site therefore had become redundant and been infilled between 1887 and 1898, and the wharf had been made continuous across its former opening.

By 1876 George Corney's yard had become a timber wharf (OS map 1:2500 1876), and it is also at this time that buildings fronting onto the southern side of River Road are first seen. Portions of these buildings were recorded in Trench 1 during the excavations. North-south and east-west walls were recorded, although the confines of the trench did not allow a precise interpretation of the function of the buildings to be made. It may be that they were associated with the wharf's change of use to the importation of Baltic timber, or alternatively they may have represented domestic premises.

In the second half of the nineteenth century the coastal trade in coal and the importation of Baltic timber were the main components of the

port's economy, but nevertheless it gradually declined (Brookfield 1955, 38–41; Elleray 1991; Friel & Fardell 1998, 8). In 1882 the wharf, including the excavated site, was leased as Old Quay Wharf to Albert Lingfield, who was followed in 1907 by James Lingfield and Sons (ACA EO/D2). The lease was taken over by Butt and Sons before 1912 (ACA EO/D2 leases nos 178, 966). John Eede Butt had been dominant in the timber trade in the town during the third quarter of the nineteenth century. He and his successors acquired land and leases at Norfolk wharf, Pier Road, Old Quay wharf and Baltic wharf and the family was particularly active in trade with the Baltic. They erected a steam-powered sawmill on their Pier Road site (VCH forthcoming).

TWENTIETH CENTURY

The town of Littlehampton continued to expand in the twentieth century (OS 1:2500 maps 1911 and 1932). In 1908 a swing bridge replaced the ferry as the means of crossing the river. In 1930 the Urban District Council purchased the foreshore, the windmill and other property from the Duke of Norfolk and in 1931 the Duke sold most of the remainder of his Littlehampton estate to a London developer (Elleray 1991).

The wharf which included the excavated site appears to have been emptied of buildings by 1932 (OS map 1:2500 1932). The leases to Butt and Sons were renewed to include Old Quay and Baltic Wharves in 1922 and 1939. In 1939 the Duke of Norfolk sold the property to Sussex Wharves Ltd. It subsequently passed to Travis Arnold, later Travis Perkins, in 1944 (ACA EO/D2 lease no 1023).

The trading activities of the port continued to decline. The importation of coal ended in 1951, leaving only some coastal cargo trade and the importation of road aggregates from Cornwall, so that by 1955 it was 'a very minor port indeed'. It had by then principally become a yachting harbour (Brookfield 1955, 35, 41–2, 44–6; Elleray 1991).

ARCHAEOLOGICAL SEQUENCE

NATURAL DEPOSITS

While the trenches were not excavated to the depth of the chalk bedrock, Trench 2 revealed a sequence of sandy clay with chalk flecks to a level of 0.10 m OD representing a possible flood event. This deposit was overlain by a sequence of accretionary alluvial silty clays 2.36 m thick laid down during

low-energy conditions by the River Arun, which had a highest level of 2.30 m OD, possibly representing a sequence of regularly exposed and submerged mudflats. This alluvium was in turn sealed by approximately 1.20 m of deposits resulting from wharf-building and concrete hard-standing. Trench 1 was situated further to the north, and revealed a series of light brown sandy clay deposits recorded at a top level of 2.13 m OD. These natural strata are likely to represent an area of higher ground which lay beyond the limits of the River Arun in antiquity.

EIGHTEENTH-CENTURY WELL

Sealing the alluvium in Trench 2 was a mid-grey silty clay devoid of datable finds and with a maximum level of 2.43m OD. This deposit was probably a redeposited alluvial clay representing the first attempt to reclaim and erect a wharf to revet the harbour area. An eighteenth-century well (Fig. 8) represents the earliest structure identified during the fieldwork. It was cut into a layer of dumped clay material 0.88 m thick, which may represent the first concerted attempt to reclaim the area. The well had a diameter of 0.8 m and was lined with roughly hewn chalk blocks. Dating evidence suggested that it was backfilled in the late eighteenth century. It is interesting that the structure did not penetrate deeply into the underlying natural in order to tap available fresh groundwater. This suggests either that the well's purpose was not to provide freshwater or that it was tapping into the freshwater of the run-off and river at low tide only. The well may have been associated with sheds owned by the Earl of Surrey (*see above*) which were located on the foreshore and are attested by eighteenth-century documents.

NINETEENTH-CENTURY WHARF-BUILDING AND DOCK

A deposit of sandy gravel 1 m thick was identified across the area of Trench 2. It was interpreted as a further deposit laid down during the building of a wharf erected to reclaim the foreshore. Cut into this gravel was a wharf building which measured 17 m north–south by 7.63 m east–west. The walls were 0.82 m wide and survived to a maximum height of 0.80 m. They were constructed of roughly-hewn chalk and occasional limestone and greensand stone blocks while the two visible northern corners of the building consisted of stretcher-coursed red brick quoins. The external walls were constructed



Fig. 8. Plan of dock building and associated structures.

on a roughly laid timber raft built using timber cross-bracing beams, over which timber planks were laid in a linear fashion. Three brick-lined slots were constructed along the western side of the building. These appeared to have housed large timber tiebacks which were bolted through an adjoining dock wall and laid back through the slots in order to retain and secure it. Only two of these tiebacks survived: the others presumably had been removed and reused prior to the demolition of the building. A dividing wall in herringbone bond and with a central doorway was also recorded. This was contemporary with this first phase of construction. No internal floor surfaces were identified within the building although a floor sill which would have supported joists for a timber plank floor was

found. The timbers comprising this floor had been removed and reused after the building fell into disuse. As this structure is present on a plan dated to 1825, it appears to be part of the site developed by George Corney who had obtained the lease for the property in 1822. The development included support buildings for his shipbuilding activities.

An adjoining dock was located to the west of the wharf building. Only the eastern side of the dock wall was identified, the western side being beyond the limit of excavation. The dock wall was constructed of timber planks nailed to both sides of vertical posts. The resulting central cavity was then infilled with packing material consisting of dumps of slate, glass and clay. As with the wharf building's floor, almost all of the external planks from the

dock wall had been removed, presumably for reuse in the construction of other wharf structures. These properties were passed to George Corney's son, another George, who in turn willed them to his wife Sarah. The remainder of the lease was turned over to Samuel Evershed and to yet another George Corney in 1849 (*see above*).

THE DOCK INFILLING

The process of the dock infilling was recorded during the excavation. The top portion of a large reused pile post was identified lying east-west across the centre of the dock. A chain was bolted through the centre of the post which extended to the south, although the end of the chain was not recorded owing to the safety constraints of further excavation in such waterlogged conditions. It is likely, however, that the tieback formed part of the structure used to seal off the entrance to the dock prior to backfilling. The dock was subsequently infilled with dumps of redeposited alluvium and industrial debris, which included a deposit of wood shavings, presumably representing waste from the timber yard. The tip lines of the dumped material, sloping down from south to north, suggest that the dock was infilled from the sealed-up southern entrance. As the dock is visible on an Admiralty chart of 1887 and not found on the Ordnance Survey map of 1898, it is likely to have gone out of use between these dates (*see above*).

Modifications also appear to have been made to the wharf building itself at this time. An east-west orientated internal wall was constructed towards the southern end of the building, thereby adding another bay. This wall had a concrete foundation with one surviving course of stretcher-bonded bricks laid on top. A small brick-built structure was also recorded to the north-east of the wharf building which measured 5 m north-south by 3.25 m east-west. Only the lowest course of bricks and the tile floor of this structure remained, but its size, together with the residual coal staining on the floor tiles, suggest that this was a coal store. The bricks used in its construction were of the same fabric type as those from the additional wall in the wharf building, and the coal shed was therefore interpreted as representing part of the same phase of activity. These modifications may have been made shortly after 1848, when this part of the yard passed to Samuel Evershed (*see above*). The excavated building appears to have

been demolished between 1898 and 1911 (OS maps 1:2500 1898 and 1911).

FINDS

The find of a copper decorative pendant (SF 68), possibly from a piece of a horse harness of nineteenth- or early twentieth-century date, is of note as its depiction of a sailing ship in full sail provides a direct reference to the site's contemporary focus on ships. A small number of pennies and a farthing (1910–15) of Edward VII and George V, a copper weight marked '8 drams', and a silver-plated spoon with maker's marks were also recovered in addition to a few other less interesting metal finds.

The pottery, glass and ceramic building material uncovered in the excavations constitute a small unremarkable assemblage, with the pottery and glass comprising wares commonly associated with lower-status groups of material.

The pottery includes fragments of post-medieval red wares of eighteenth-century date, pearl wares, with transfer prints, dated 1770–1850, developed cream ware, dated 1775–1880, transfer-printed ware, dated 1780–1900, and refined white earthenware, Sunderland coarse ware and yellow ware with mocha decoration all dating to between 1800 and 1900.

The eleven pieces of glass have a date range of between the late eighteenth and twentieth centuries and comprise medicinal containers and stoppers and wine bottles or fragments. There is a small blue flat medicinal bottle with an oval base and screw top rim, made in a two-piece mould using an automatic bottle machine, embossed 'MILK OF MAGNESIA Registered Trade Mark' on one of its flat sides.

Two animal bones were recovered from late nineteenth- or twentieth-century deposits. These are a large cattle metacarpal probably from an improved breed and part of a subadult cattle scapula sawn through twice during butchery. Both of these are typical of their late date when larger breeds of cattle were farmed and when butchers frequently used saws.

The lack of finds from the site which are characteristic of ship construction and breaking, considering its known function as a shipyard, should be noted. This suggests that the excavated areas lay outside the parts of the site used for these purposes.

CONCLUSION

The excavated site, therefore, remained as part of the undeveloped foreshore of Littlehampton manor until the end of the eighteenth century, although it was adjacent to the Town Quay to its south-east, where a wharf was probably built during this century. It was developed as part of a programme initiated by the Duke of Norfolk in the 1820s to utilize the foreshore. The excavated dock and building on the site were constructed as part of a shipyard by George Corney in the period 1822 to 1825. By 1841 this shipyard had become a coal wharf. The dock had probably been enlarged and altered in shape by 1855. Later in the nineteenth century the yard became a wharf for the importation of Baltic timber. The dock was infilled in the period 1887 to 1898, and a wharf was built across its former mouth. The adjacent building

had been demolished by 1911, and the whole site cleared of structures by 1932.

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