

# New Fresh Wharf: 1, The Roman Waterfront

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Photography by Trevor Hurst

FOR THE Roman period the development of the large site west of Billingsgate fishmarket, excavated in 1974 and 1975 (fig 1) by the Department of Urban Archaeology Museum of London, had two important aspects. Recent excavation at Custom House<sup>1</sup>, about 150m to the east, had shown that a substan-

tial wharf of oak timbers in box construction lay 7m south of Lower Thames Street, at about O.D. level or 6m below the present street. To locate this structure would confirm the establishment of the Pool of London, at least on its northern side, in the Roman period. Secondly a fashionable topic of

1. Tim Tatton-Brown, "Excavations at the Custom House Site, City of London, 1973, *Trans London and Middle-*

*sex Archaeol Soc.* 25 (1974) 117-219. Interim report in *London Archaeol.* 2 no. 7, 155-159.

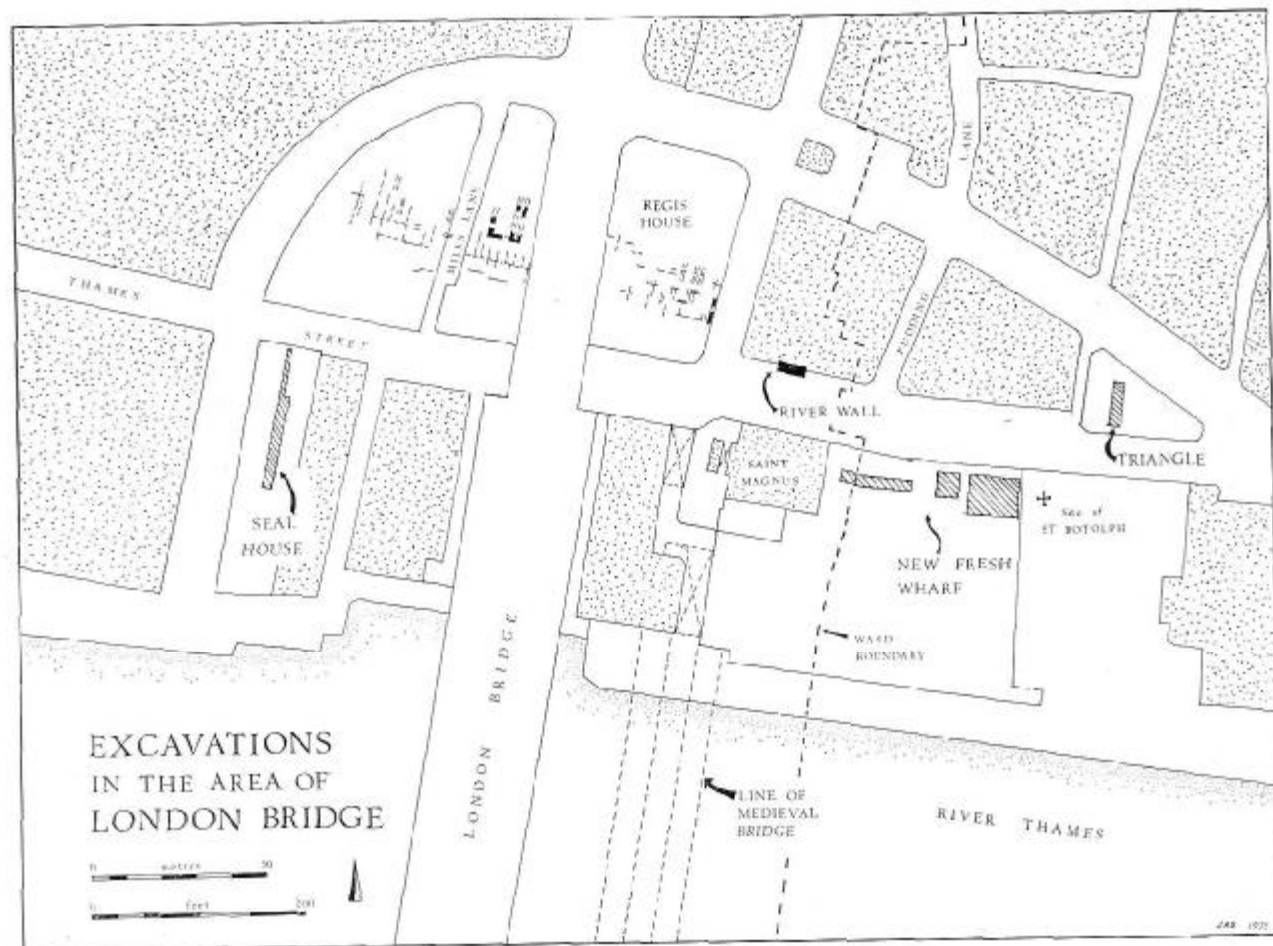


Fig. 1. Bridgehead area, showing excavations of 1974-75 (shaded) and main Roman topographical features (terracing under Regis House, etc. found 1920-9).

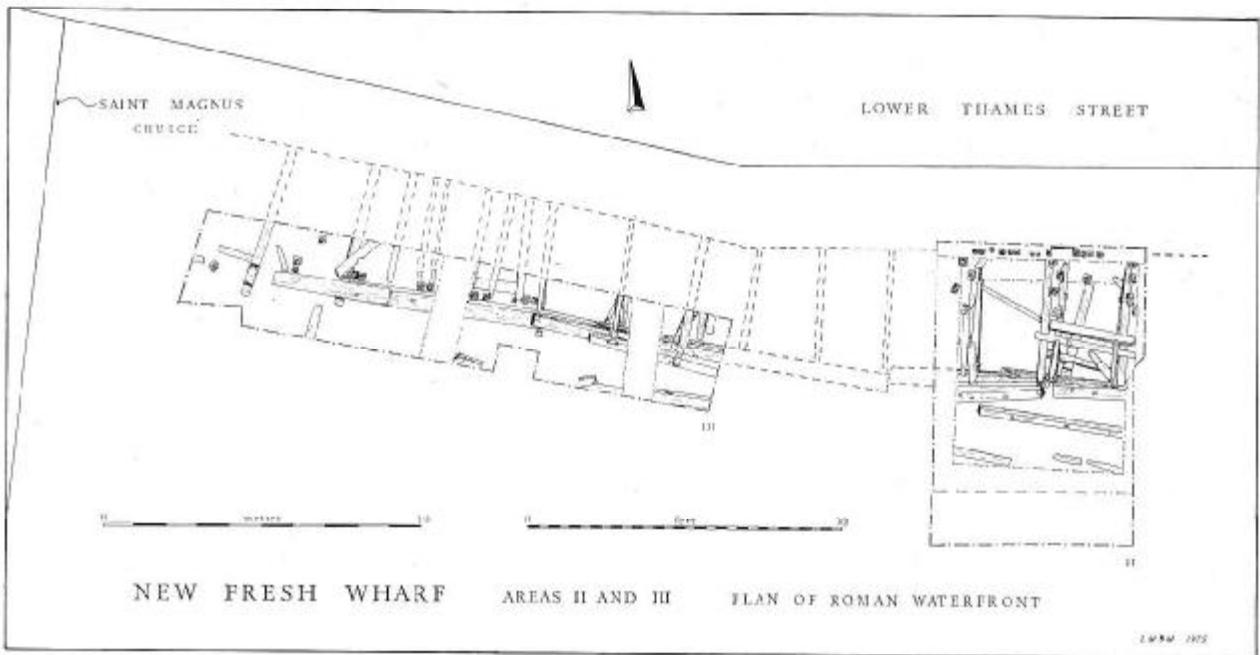


Fig 2. Plan of Roman Waterfront

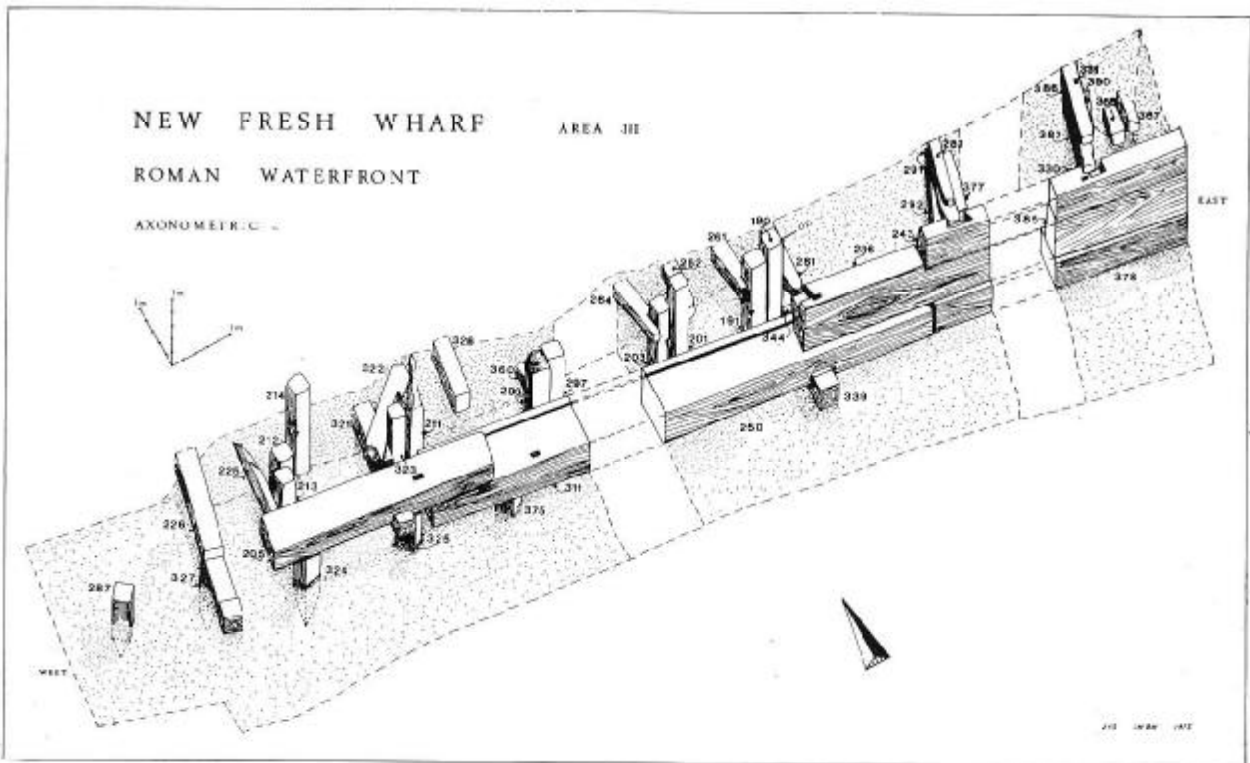
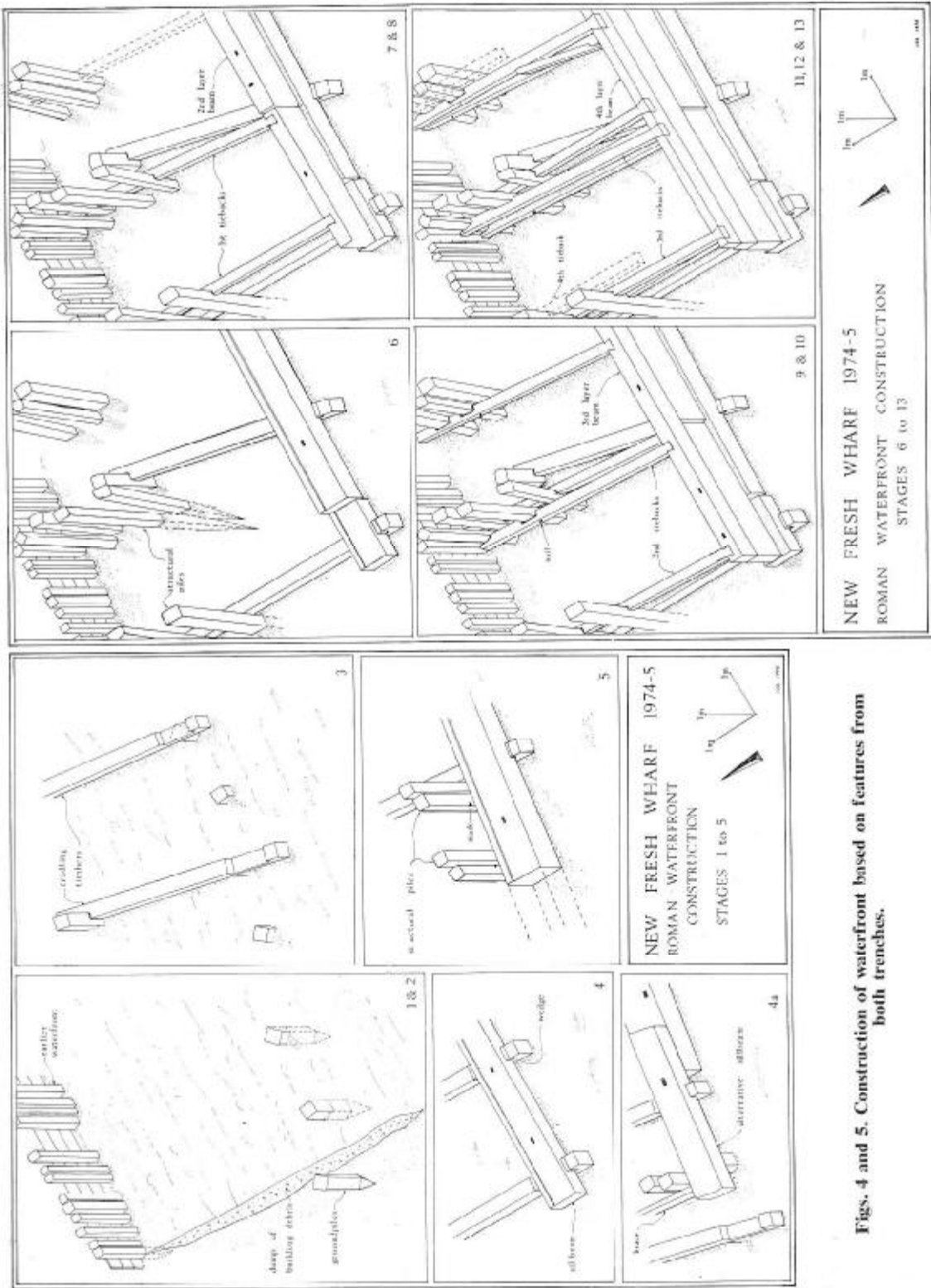


Fig 3. Roman Waterfront Area III, axonometric.



Figs. 4 and 5. Construction of waterfront based on features from both trenches.

archaeological and topographical debate<sup>2</sup> concerned the location of the Roman London Bridge, which had never been located with any degree of certainty. A large and varied quantity of bronze statuettes, coins, tiles, pottery and other objects, including the famous head of Hadrian, had been found in previous centuries, on a line east of the medieval stone bridge (completed 1209), which ran along the western side of the site; it was therefore possible that the Roman bridge ran through the area to be excavated (fig 1). There were the added possibilities, with or without the bridge, of bridgehead or dock-side roads, buildings and wrecks alongside the wharves.

The main Roman waterfront, provisionally dated to the 2nd century as at Custom House, was uncovered in the Area II trench in 1974, and traced for a further 18m in the Area III (St. Magnus) trench in 1975<sup>3</sup> (figs. 2, 3). The excavation reached -3.5m O.D. or 10.1m (34ft) below street level and was still in early 2nd century river silt when dangerous flooding stopped work. What appears to be an earlier waterfront or embankment was found in the northern edge of Area II, but only its front, of posts and planks, could be recorded (fig 2; fig 4). It may, as at Custom House<sup>4</sup>, have revetted a quay of chalk rubble laced with timbers, and the late 1st/early 2nd century quay at Dover was of similar construction<sup>5</sup>.

The main waterfront was built out from this revetment some 4m into the river. The construction, of oak, has been divided into fourteen stages. There is some evidence of prefabrication, at least one carpenter's mark, and the measurements of timbers can be related to dimensions of the Roman foot (0.295m), as found on carpenters' rules found in the City and elsewhere.

The first stage comprised *ground piles* (fig 4: 1) driven into the foreshore, of standard section 30 x 28 cm (1 Roman foot x 1 Roman foot planed down by one sixteenth — a *digitus*), between 0.83 and 1.14m in length. They were set so that the line of quay above passed through their diagonal axis. Around these piles in Area III was a layer or *dump of building material* (fig 4: 2) composed of rubble, plaster, *op. sig.*, tiles, tesseræ and lumps of burnt daub, probably part of the building process as a spread of dry rubble for the builders to walk on, also functioning as consolidation for the piles. Thirdly large anchor-beams or *cradling timbers* (fig 4: 3) were laid at right angles to the future line on some of the piles. They were up to 4m long and were secured at their northern ends by jointing with



Fig. 6. Details of carpenter's mark on back of sill-beam.

further piles; their sections were usually 30 x 33 cm (1 Roman foot x 1 1/8 Roman foot). In their top surface was cut a large notch through the width of the timber, into which the sill-beam was laid at right angles (fig 4: 4); the notch was wedged on both sides to keep the sill-beam tightly in place, but the excessive length of the notch may have allowed for slight deviations in general alignment, as was found between the two trenches (fig 2); perhaps the quay was turning inland to approach the bridge on the west. The notches, like all the cut joints (mostly bare faced lap dovetails with declining soffits) in the construction, were a standard 12-13cm deep. This is the only measurement not directly intelligible in Roman terms; it equals 2/5 of a Roman foot, but this division is not on the Roman ruler. Perhaps it equals half a foot (2 *palmi*) planed or adzed down by a *digitus*, which implies the notches were marked out before the timber was planed down.

The *sill-beams* (fig 4: 4, 6, 7) laid on the cradles have a standard shape and proportion of height to width, but decrease in overall section from west to east. The beam in the Area III trench (fig 3) passed through a baulk which could not be removed, and its ends have been removed (with a power saw, such was the strength and freshness of the timber) for dendrochronological analysis. As it has 210 rings, the tree started life well back in the Iron Age. The provisional date from the ten samples is 155 A.D.  $\pm$  5 years, 25 years before that at Custom House. The samples, when matched, will also tell us if the

2. See Tony Dyson, "The Pre-Norman Bridge: A Re-appraisal," *London Archaeol.* 2, no. 12, for references to articles by Ralph Merrifield, Harvey Sheldon and Graham Dawson.

3. 1974 trench supervised by Gerald Clewley.

4. Tatton-Brown, *op.cit.* 122, fig. 6.

5. S. E. Rigold, "The Roman Haven of Dover," *Ant.J.* 126 (1969) 83.



two ends are from the same beam, in which case it was 7.95m long, with a section at its thickest of 37 x 74 cm (1½ x 2½ Roman feet). The sill-beams butted at their ends, again allowing for slight changes in direction. At the west end of one beam (fig. 3: 378) a carpenter's mark on the back edge of the beam was found (fig. 6); a figure IV in slightly sloping script, V-cut as in stone inscriptions, of uncertain purpose but perhaps related to the unusual jointing of a diagonal brace to a groundpile via a nailed scarf at this point.

At the west end of Area III, as the underlying foreshore rose, a rougher sill-beam was stepped up over a series of cradles (fig 4: 4a; fig 3, 205). Apart from the rising ground level no other function could be assigned to this special stage, as the waterfront was almost totally robbed out (in the Saxon period) at this end of the trench.

The standard sill-beams must have been of variable lengths, dependent on the availability of large oaks, and must have been laid out on the shore so that the position of the groundpiles which supported their ends could be worked out. The cradles, two (probably three in the case of longer beams) to a beam, were also positioned on the beach and their notches cut on site to accommodate the variable width of sill-beams. Lenses of organic matter in subsequent silting layers may be the shavings from these actions.

*Structural piles* (fig 4: 5, 5: 6) were now driven behind the sill-beams, in two main groups. In Area III five pairs were found immediately behind the sill-beam, arranged in four E/W bays, and most likely represent the foundations of a building which came to the edge of the quay, or possibly a crane (fig 3). Some of them showed triangular marks, here interpreted as piling marks — when this mark reached the top of the sill-beam, a regulation height remained above. A similar mark was found on piles at the Roman bridge at Aldwinkle, Northants., there interpreted as abrasion from lifting-ropes.<sup>6</sup> In Area II these piles were not found, but a second group 2-3m behind the quaywall (fig 5: 6). Arranged in north-south groups of four, they may also support a building, but their main function is to brace *horizontal tieback braces* (fig 5: 7) which connect with the *second row of beams* (fig 6) now placed on the sill-beam, sitting against a 2cm lip at the back of the beam. The second row beams were of smaller section, connected to the beams below and above with false tenons cut in their upper and lower surfaces. This must also have been done on the shore during construction. The sections varied around 50 x 28 cm (1 2/3 x 1 Roman foot planed). Lap dovetail mortices were cut in the upper surface to joint

6. Information from Dennis Jackson.



Fig 7. Roman waterfront looking east (compare fig 3).

with the *first tiebacks* (fig 8), which jointed in turn with the structural piles, halved and nailed. Above the *second row* came the *third row of quayfront beams* (fig. 5: 9), of section 39 x 23 cm (1½ x ¾ Roman foot) and jointed to them the *second tiebacks* (fig. 5: 10). From these diagonal braces went down to groundpiles beneath some of the sill-beams (fig 8). The *fourth layer of quayfront beams* (fig 5: 11) did not survive in position in either trench, but one example was found on the shore in front in each trench (fig 8). These were again smaller, 18 x 30 cm (¾ x 1 Roman foot). Nails in the sides of the structural piles indicate a fifth layer, later removed. Thus in Area II, on which fig 5 is based, tiers of tiebacks made a rough box structure.

Although various pieces of timber were found in and around the structure, nothing directly attributable to the superstructure survived intact. Traces of beam flooring were found at Seal House, just upstream of the bridge, on a length of waterfront of very similar construction, at about +0.3m O.D.

This waterfront resembles that at Xanten more than the ones just downstream at Custom House, being based on anchor-beams and tieback braces rather than box-construction of log-cabin type; a Xanten-type waterfront may have continued east from the Custom House trench.<sup>7</sup> The structure was not meant to float as the wedged sill-beams and nailed joints testify. This is probably the case also

7. Taiton-Brown, *op.cit.*, fig. 7.



Fig 8. Interior of waterfront at east end of Area III, showing nailed tiebacks.

at the Custom House.<sup>8</sup> As at Custom House, too, the structure slowly silted up during the 3rd and 4th centuries, slack water moving slowly in and out of the apertures and cracks in the quaywall. In these layers were large amounts of pottery, including several crate loads of broken, unused samian cups, bowls and dishes, presumably swept as breakages from the holds of unloading ships, with Rhenish wares and the largest group of mortaria from the 2nd century German maker Verecundus so far excavated in this country. This large amount of pottery contrasts with the minimal amount recovered during the recent watching brief at Seal House, above the bridge, where a roughly equal length of quay was uncovered. It seems possible that New Fresh Wharf was the quay for ships with pottery, and that upstream of the bridge was for traffic which did not break easily, such as timber, animals (or people?), or for traffic coming downstream rather than up. This might imply that there was no need for a drawbridge in the Roman bridge, as small boats like the Blackfriars barge could have stepped their masts.

Around the quay also a large number of small

8. See Cecil Hewett, "The Carpentry," in T. Tatton-Brown, "Excavations at the Custom House site, City of

finds were recovered: a series of pipeclay Venus figurines, writing tablets, a pilum head, a wooden bowl, a basket, many shoes and other objects of organic material, well preserved in the silt. Towards the west, where the bridge presumably lay, many coins were found in the river gravels.

The date of abandonment and eventual semi-destruction of the waterfront is at present being debated, and it is hoped in a second article, on the Saxon waterfront of New Fresh Wharf, to make suggestions. Fourth century pottery was found in the structure, as at Custom House, but no 5th century material. In the silt outside the waterfront in Area II two large hand made pots, badly fired, tempered with flint and chaff, are provisionally 6th century in date. The proximity of the Billingsgate Bath-house, where the City's only stratified pagan Saxon deposits have so far been found, may well be relevant here. Some time during the 6th to 9th centuries the fourth quaywall beam fell or was pushed off the quay, indicating decay. How far into the mid-Saxon period the Roman waterfront was standing, perhaps in sporadic use, is a fascinating question to be considered in the next article.

London, part 2," *Trans. London and Middlesex Archaeol. Soc.* 26 (1975) 115-6.