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London's Waterfront  
1100–1666: excavations  
in Thames Street,  
London,  
1974–84

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and Jacqui Pearce, with  
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with contributions by  
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Cover illustrations: below, the early 13th-century waterfront at Billingsgate (now on display at the Museum of London); above, a stone angel corbel probably from the medieval St Botolph Billingsgate church, found in earth-moving debris from the Billingsgate site which had been transported to Essex

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# Contents

List of Figures.....	vi
List of Tables .....	xi
Summary .....	xv
Acknowledgements .....	xxii
<b>1. The report: introduction.....</b>	<b>1</b>
1.1 The four study sites .....	1
1.2 The topographical framework of the excavations: properties and parishes.....	4
1.3 The circumstances of the excavations 1974–84.....	5
1.4 The pottery and artefacts from the study sites .....	12
1.5 Organisation of this report, conventions, abbreviations and codes .....	14
1.6 Research questions and comparisons .....	17
<b>2. Period M1 (1100–1200, 1220 on site A) .....</b>	<b>18</b>
2.1 The port of London 1100–1200 .....	18
2.2 Swan Lane (site A) in period M1 (1100–1200, possibly to 1220) .....	22
Waterfronts and new buildings, period A1 (1150–about 1220) .....	23
Waterfronts, foreshores and buildings, period A2 (1150–about 1220) .....	23
2.3 Seal House (site B) in period M1 (1100–1200).....	30
Silting, B:Waterfront 1 and B:Building 1, 1140–c 1180 (period B3).....	30
Robbing of B:Waterfront 1, construction of B:Waterfront 2 (c 1180–1200) (period B4) .....	35
Objects from period M1 from site B.....	36
2.4 New Fresh Wharf (site C) in period M1, 1100–1200.....	37
Tenement 9.....	38
Tenement 10 and the inlet on its west side.....	38
Tenement 11.....	40
Tenement 12.....	41
Tenement 13.....	44
Tenement 14.....	44
2.5 Billingsgate Lorry Park (site D) in period M1 (1100–1200).....	46
Tenement 15.....	46
2.6 Discussion: the waterfront of London in the 12th century.....	51
Reclamation, waterfront structures and Thames Street.....	51
Buildings and their functions on the study sites; pottery and artefacts .....	54
<b>3. Period M2 1200–1350 .....</b>	<b>56</b>
3.1 The port of London 1200–1350 .....	56
3.2 Swan Lane (site A) in period M2 (1220–1350).....	59
Tenement 1.....	61
Tenement 2.....	63
Tenement 3.....	69
Tenement 4.....	77
Tenement 5.....	78
Summary of site A in period M2 (1220–1350).....	79
3.3 Seal House (site B) in period M2 (1200–1350).....	81
Tenement 6.....	81
Tenement 7.....	97
Tenement 8 (The Peacock).....	97
Summary of site B in period M2 (1200–1350).....	97
3.4 New Fresh Wharf (site C) in period M2 (1200–1350) .....	98
Tenement 9 (Le Cok On The Hoop; Croskeys) .....	99
Tenement 10 (later The King’s Arms) .....	102

Tenement 11 (Freshwharf).....	103
Tenement 12 (le Brodegate).....	104
Tenement 13.....	105
Tenement 14.....	105
Summary of site C in period M2 (1200–1350).....	106
3.5 Billingsgate (site D) in period M2 (1200–1350).....	107
Tenement 15: Botolph Wharf and St Botolph Billingsgate 1200–1350.....	108
Objects found during later earth-moving, 1983–4.....	135
3.6 Discussion: the waterfront of London 1200–1350.....	136
Reclamation, waterfront structures and the level of Thames Street.....	136
Buildings and their functions on the study sites; pottery and artefacts.....	140
<b>4. Period M3 1350–1500.....</b>	<b>143</b>
4.1 The port of London 1350–1500.....	143
4.2 Swan Lane (site A) in period M3, 1350 to 1500.....	146
Waterfronts and foreshores, period A6.....	146
Tenement 1 (the Three Stars) (period M3, 1350–1500).....	155
Tenement 2 (Cok on the Hoop/ le Stewehous) (period M3, 1350–1500).....	160
Tenement 3 (period M3, 1350–1500+).....	161
Tenement 4 (le Katherine While) (period M3, 1350–1500).....	163
Tenement 5 (le Mone on the Hop) (period M3, 1350 to 1500).....	164
4.3 Seal House (site B) in period M3, 1350–1500.....	164
Tenement 6 (The Black Raven).....	164
Tenement 7 (Our Lady).....	170
Tenement 8 (The Peacock).....	170
Waterfront structures recorded on the watching brief on Tenements 6 to 8.....	171
4.4 New Fresh Wharf (site C) in period M3, 1350–1500.....	171
Tenement 9 (Le Cok On The Hoop; Croskeys).....	171
Tenement 10 (including Rothersgate).....	172
Tenement 11 (Freshwharf).....	172
Tenement 12 (Brodegate).....	173
Tenement 13.....	174
Tenement 14.....	177
4.5 Billingsgate (site D) in period M3, 1350–1500.....	179
Tenement 15 (Botolph Wharf).....	180
Period D12.8 to 12.10: second half of 14th century.....	180
Period D13: mid to late 14th century.....	183
Period D14: early to mid 15th century.....	187
Period D15.1 to 15.2 (second half of 15th century, possibly c 1455).....	196
The church of St Botolph Billingsgate from the 12th to the early 16th century.....	201
4.6 Discussion: the waterfront of London 1350–1500.....	210
Reclamation, waterfront structures and Thames Street.....	211
Buildings and their functions on the study sites; pottery and artefacts.....	212
<b>5. Period P1 (1500 to 1666).....</b>	<b>214</b>
5.1 The port of London 1500 to 1666.....	214
The Legal Quays, trade and the new trading companies.....	214
Developments in the number and size of ships.....	215
Queenhithe and Billingsgate; the Steelyard and Custom House; London Bridge; livery company halls south of Thames Street.....	216
5.2 Swan Lane (site A) in period P1, 1500–1666.....	218
Tenement 1.....	218
Tenement 2.....	221
Tenement 3, The Old Swan.....	221
Tenement 4 (le Kateryn Whele).....	221
Tenement 5.....	222
5.3 Seal House (site B) in period P1, 1500–1666.....	222
Tenement 7 (Our Lady) and Tenement 8 (The Peacock).....	225
5.4 The riverside ends of sites A and B in pre-Fire panoramas.....	225

5.5 New Fresh Wharf (site C) in period P1, 1500–1666 .....	227
Tenement 9 (le Crosskeys) .....	227
Tenement 10 (The King’s Arms) .....	229
Tenement 11 (Freshwharf).....	230
Tenement 12 (Gaunt’s Quay) .....	230
Tenement 13 (Cox’s Quay) .....	230
Tenement 14 (Hammond’s Quay or the Half Moon) .....	231
5.6 Billingsgate (site D) in period P1, 1500–1666.....	233
Tenement 15: Botolph Wharf and St Botolph’s church.....	233
St Botolph Billingsgate, 1500–1666: documentary evidence .....	235
St Botolph Billingsgate and Botolph Wharf, 1500–1666: archaeological evidence .....	239
Tenement 16 (Lyon Quay) in period P1 (1500–1666).....	269
5.7 The riverside ends of sites C and D in pre-Fire panoramas .....	269
5.8 Discussion: the waterfront of London 1500–1666.....	271
Reclamation and waterfront structures .....	271
Buildings and their functions on the study sites; pottery and artefacts .....	273
The Great Fire and after .....	274
Thames Street as an historic and archaeological asset .....	276
5.9 Conclusions.....	277
<b>6. Essays and specialist reports: the development and character of the waterfront of the City of London, 1100–1666, and suggestions for future research.....</b>	<b>278</b>
<i>John Schofield</i>	
6.1 The nature and purpose of reclamation, including the design of waterfront structures, 1100–1666.....	280
Reclamation, river levels and the levels of Thames Street.....	280
The design of the riverside walls: wood and stone .....	282
6.2 Properties and buildings on the waterfront, 1100–1666 .....	283
From 1100 to 1350.....	284
From 1350 to 1500.....	288
From 1500 to 1666.....	294
Industries and trades on the waterfront .....	298
St Botolph Billingsgate church.....	302
6.3 The people and burials at St Botolph Billingsgate .....	304
<i>Jelena Bekvalac and John Schofield</i>	
6.4 The significance of the non-ceramic artefacts, 1100–1450 .....	306
<i>John Clark and John Schofield</i>	
The finds: previous publication.....	307
Are they from the site or from the city?.....	308
Dating the finds.....	310
Throwing things away and a consumer culture: the research significance of the finds .....	311
Omissions from the finds volumes and scope for future finds research .....	314
6.5 The Billingsgate trumpet.....	315
<i>Sabine K Klaus</i>	
Introduction .....	315
Physical description.....	317
Metal analysis.....	320
Microscopic analysis .....	321
Historical and iconographical context.....	322
Function and use.....	323
Dating and provenance.....	323
Conclusion and questions .....	324
Acknowledgements .....	324
6.6 Medieval and post-medieval pottery .....	329
<i>Lyn Blackmore and Jacqui Pearce</i>	
Introduction .....	329
Research questions answered, and those for the future.....	329
Early pottery recording in London and general methodology for this publication.....	335
Swan Lane (site A) and Seal House (site B): medieval wares .....	348

Swan Lane (site A) and Seal House (site B): post-medieval wares .....	359
The chronological distribution of the pottery on sites A and B .....	360
Pottery from site C (New Fresh Wharf) .....	365
<i>Jacqui Pearce</i>	
Pottery from site D (Billingsgate) .....	366
<i>Jacqui Pearce and Lyn Blackmore</i>	
6.7 Ceramic building material from site D .....	369
<i>Ian M Betts</i>	
Possible early glazed floor tile.....	369
The tiles in St Botolph's church, period D15.3 (tile floor 1).....	370
The tiles in St Botolph's church, period D16.6 (tile floors 3 and 4) .....	370
General notes on the different types of medieval tiles .....	371
Tin-glazed floor tiles .....	373
Tin-glazed wall tiles .....	376
Roofing Tiles.....	377
Brick.....	380
Floor tiles from the watching brief at Site D.....	381
Appendix: Ceramic fabric types .....	384
6.8 Analysis of the human skeletal remains from St Botolph Billingsgate .....	386
<i>Jelena Bekvalac</i>	
Preservation .....	386
Demography .....	387
Adult age at death.....	389
Sub-adult age at death .....	389
Stature and growth .....	389
Skeletal indices .....	390
Infectious disease .....	390
Trauma .....	391
Cranial trauma .....	392
Spinal joint disease.....	393
Extra spinal joint disease.....	394
Congenital and developmental abnormalities.....	397
Metabolic disease.....	399
Hyperostosis frontalis interna (HFI).....	400
Paget's disease.....	401
Non-metric traits.....	401
Dental health .....	402
Individuals from the brick graves.....	405
Discussion .....	405
6.9 Detailed notes on aspects of the documentary history of the sites in 1500–1666.....	407
<i>Tony Dyson</i>	
6.10 Wills mentioning the fabric, ornaments, fraternities, chantries or earlier burials in the church or cemetery of St Botolph Billingsgate to 1558 .....	407
<i>Stephen Freeth</i>	
6.11 Moulded stones from St Botolph Billingsgate.....	414
<i>John Schofield</i>	
6.12 The Billingsgate waterfronts: conservation and display .....	414
<i>Helen Ganiaris and Suzanne Keene</i>	
Introduction .....	414
Care and preparation of the timbers .....	414
Treatment of waterlogged wood.....	415
Display .....	416
Acknowledgements .....	417
<b>7. Dating Tables and Artefact Tables .....</b>	<b>418</b>
<i>John Schofield with Carolyn Carlson, Lyn Blackmore and Jacqui Pearce</i>	
Period M1 1100–1200/20 .....	418
Period M2 1200/20–1350 .....	424

Period M3 1350–1500.....	438
Period P1 1500–1666.....	443
7.2 Artefact tables .....	446
Period M3 .....	454
<b>8. Section drawings and supporting files online .....</b>	<b>461</b>
<i>John Schofield</i>	
8.1 Section drawings and elevations, sites B and C .....	461
8.2 Supporting files in the archive and online .....	484
<b>9. Summaries in French and German .....</b>	<b>485</b>
<i>Madeleine Hummler</i>	
Résumé .....	485
Zusammenfassung .....	488
<b>10. Bibliography and abbreviations.....</b>	<b>492</b>
<b>Index .....</b>	<b>509</b>

## List of Figures

Figure 1	The early 13th-century waterfront excavated on the Billingsgate site.....	xix
Figure 2	Artefacts from reclamation deposits.....	xxi
Figure 3	The Billingsgate trumpet .....	xxi
Figure 4	Household fittings and equipment from the Swan Lane site.....	xxii
Figure 5	Native and foreign 17th-century pottery from a drain on the New Fresh Wharf site.....	xxii
Figure 6	From a drain on the Billingsgate site full of artefacts, part of the household effects .....	xxii
Figure 7	Detail from the panorama of 1647 by Wenceslaus Hollar .....	xxiii
Figure 8	Seventeenth-century tin-glazed wall tile from site D .....	xxiii
Figure 9	Is this skeleton John Reynewell, mayor of London in 1426–7? .....	xxiv
Figure 11	Details from the analysis of human remains at Billingsgate .....	xxv
Figure 12	The City of London, showing the four sites in the study .....	1
Figure 13	The sites of the four excavations south of Thames Street.....	2
Figure 14	The central area of the waterfront of London, showing the main sites used in this study.....	3
Figure 15	Outline of medieval and post-medieval properties and major topographical features in the study area.....	5
Figure 16	The bridgehead zone on Ogilby and Morgan’s map of 1676 .....	6
Figure 17	Site C: areas of excavation (Areas I to III) and areas watched during building work (Areas IV and V) .....	7
Figure 18	General plan of medieval tenements 1–8 .....	8
Figure 19	Site B (Seal House): trench outline and section lines .....	9
Figure 20	Site B (Seal House) during excavation in 1974.....	9
Figure 21	Site A (Swan Lane): the standing multi-storey car park (second building from the right) from the southeast .....	10
Figure 22	Site D (Billingsgate): the site after initial cleaning in 1982.....	11
Figure 23	Sketch produced in 1982 to illustrate the position of the Billingsgate excavation (site D) .....	11
Figure 24	Destruction of the strata east and south of the site D (Billingsgate) .....	12
Figure 25	Findings in Europe of three types of pottery made in the London area in the 12th and 13th centuries .....	19
Figure 26	The City of London around 1100.....	20
Figure 27	The north end of London Bridge and St Magnus’s church as rebuilt by Wren .....	20
Figure 28	Two arches at the north end of London Bridge during demolition of the bridge .....	21
Figure 29	Site A: period A2 (mid-late 12thc), site plan (1:300) .....	25
Figure 30	An LCOAR EAS early rounded jug .....	26
Figure 31	Site A: objects from Gp A42.....	26
Figure 32	Site A: detail of hearth A[329] .....	29
Figure 33	Site B: period 3 features, comprising B:Waterfront 1 and B:Building 1, 1140–c 1180 (1:150).....	32
Figure 34	Site B: base of B:Waterfront 1 .....	32
Figure 35	Site B: isometric view of B:Waterfront 1, and a reconstruction .....	33
Figure 36	Site B: period 3, B:Waterfront 2 and B:Building 1, c. 1200.....	36
Figure 37	Site B: north or landward side of the part of B:Waterfront 2 in the excavation trench .....	37
Figure 38	Site B: shoe B[451] <207> from Gp B19, reclamation dumping behind B:Waterfront 1 .....	37
Figure 39	Site C: plan in the earlier part of period M1 (1100–1200) on Tenements 9 to 14 .....	39
Figure 40	Site C: plan in the later part of period M1 (1100–1200, perhaps to 1230) on Tenements 9 to 14.....	42
Figure 41	Site C: excavation in progress of the possible timber building above the embankment on Tenement 12 .....	43
Figure 42	Site C: west wall of C:Building 4, looking north.....	44
Figure 43	Site C: extract from drawing of walls on the east side of the site.....	45
Figure 44	Site C: C:Building 5 during excavation, overlain by features of later periods .....	46
Figure 45	Site C: ashlar walling from the river frontage of Tenement 14.....	46
Figure 46	Site D: D:Waterfronts 8 and 9.....	49
Figure 47	Site D: Waterfronts 10–11 and D:Structure 1.....	50
Figure 48	The port of London in 1200.....	57
Figure 49	Site A: plan of period A3, 1220–50 .....	58
Figure 50	Site A: plan of period A4, 1250–1330.....	59
Figure 51	Site A: plan of period A5, 1300–50.....	60
Figure 52	Site A: candlestick from Gp A49 .....	62
Figure 53	Site A: objects from Gp A61.....	65
Figure 54	Site A: objects from Gp A74: dress accessories.....	67
Figure 55	Site A: objects from Gp A74.....	68
Figure 56	Site A: objects from Gp A74.....	69
Figure 57	Site A: objects from Gp A74.....	70
Figure 58	Site A: objects from Gp A74.....	71
Figure 59	Site A: objects from Gp A74.....	72
Figure 60	Site A: objects from Gp A74.....	73
Figure 61	Site A: objects from Gp A74.....	74

Figure 62	Object from site A, Gp A74 .....	75
Figure 63	Object from site A, Gp A74 .....	75
Figure 64	Object from site A, Gp A74 .....	75
Figure 65	Object from site A, Gp A55 .....	75
Figure 66	Site B: plan of B:Waterfront 3 and B:Buildings 1-2, period M2 .....	82
Figure 67	Site B:B:Waterfront 3, isometric drawing of the structure viewed from the southwest .....	83
Figure 68	Site B:B:Waterfront 3, elevation of the north, internal side.....	83
Figure 69	Site B:B:Waterfront 3, looking northeast.....	84
Figure 70	Site B: complete patten (overshoe) from B[467].....	85
Figure 71	Site B: B:Drain 1 looking northeast.....	86
Figure 72	Site B: extract from the section drawing of the east side of the excavation.....	87
Figure 73	Site B: objects from period B5.1 .....	88
Figure 74	Site B: adult's ankle shoe B[484] <246> from Gp 31b, dumping behind B:Waterfront 3 .....	90
Figure 75	Site B:B:Building 3: hearth B[307] of limestone slabs set in clay, looking east .....	90
Figure 76	Site B: plan of B:Buildings 4 to 7 in periods B7.1 to B8.1 .....	91
Figure 77	LOND ROU baluster jug.....	92
Figure 78	Site B: finds from period B7.1 (B54).....	93
Figure 80	Finds from site B, period B7.2.....	96
Figure 81	Sketch plan of St Magnus the Martyr church around 1600 .....	98
Figure 82	Site C: sketchplan of properties around 1350 .....	99
Figure 83	Site C: plan of buildings in period M2, 1200-1350.....	100
Figure 84	Site C: the timber piling in the foundation of the east wall of C:Building 6 .....	101
Figure 85	Site C: foundations for the east wall of C:Building 7.....	102
Figure 86	Site C: the foundations of C:Buildings 6 and 7 .....	102
Figure 87	Site D: plan, period D8.1 (left), 8.3-7 .....	111
Figure 88	Site D: plan, period D8.8, D8.11 and D8.9 .....	112
Figure 89	Site D: objects from period D8.1.....	114
Figure 90	Site D: pewter vessel base from period D8.8 .....	114
Figure 91	Site D: plan, period D9.1-D9.3 .....	115
Figure 92	Site D: D:Waterfront 14 and D:Waterfront 15.....	116
Figure 93	Site D: the north (landward) side of D:Waterfront 14.....	116
Figure 94	Site D: objects from period D9.2.....	117
Figure 95	Site D: stirrup D<2800> from period D9.2 (<S145>) .....	118
Figure 96	Site D: plan, period D9.4-6 .....	119
Figure 97	Site D: plan, period D10.1-4 , D10.5-8 , D10.9 .....	121
Figure 98	Site D: objects from period D10.1.....	122
Figure 99	Vertebrae of a killer whale, context D[3248].....	123
Figure 100	Site D: plan, period D10.12 .....	125
Figure 101	Site D, object from period D10.15.....	126
Figure 102	Site D: plan, period D11.1-2, 11.8 .....	127
Figure 103	Site D: D:Waterfront 16 .....	128
Figure 104	Site D: the drain in period D11.8 .....	129
Figure 105	Site D, plan, period D11.3-11.7 .....	130
Figure 106	Site D, object from period D11.3 .....	131
Figure 107	Site D: plan, period D12.1-12.5 and D12.6 .....	132
Figure 108	Objects from period D12.1 .....	133
Figure 109	The Billingsgate trumpet .....	135
Figure 110	Upper Thames Street looking west, near the church of All Hallows the Great.....	138
Figure 111	Lower Thames Street looking east.....	138
Figure 112	Detail of a miniature from a manuscript of the poems of Charles, Duke of Orleans .....	145
Figure 113	The crypt of the Chapel of St Thomas on London Bridge .....	146
Figure 114	Site A: plan of site in period A6 (1350-1400) .....	147
Figure 115	Site A: objects from Gp A85.....	149
Figure 116	Site A: objects from Gp A85.....	150
Figure 117	Site A: summary plan of waterfronts south of A:Waterfront 14 .....	151
Figure 118	Site A: objects from Gp A100: two copper mounts on a piece of belt, and a ceramic whistle (<S85-S86>).....	152
Figure 119	Site A: objects from Gp A93.....	152
Figure 120	Site A: objects from Gp A95.....	152
Figure 121	Site A: objects from Gp A102.....	154
Figure 122	Site A: objects from Gp A102.....	155
Figure 123	Site A: objects from Gp A103.....	156
Figure 124	Site A: objects from Gp A103 .....	157
Figure 125	Site A: objects from Gp A103 .....	157
Figure 126	Site A: objects from Gp A103.....	158
Figure 127	Site A: objects from Gp A103.....	159
Figure 128	Site A: objects from Gp A103.....	160
Figure 129	Site B: period B7, plan of hearths in the space called B:Building 4 room B .....	166
Figure 130	Site B period B7.3: knife B[280] <56> <S137> .....	166
Figure 132	B:Building 5, wall B[129] .....	168



Figure 133	B:Building 6, east wall [115]	168
Figure 134	Site C: plan of later buildings on Tenements 13 and 14: C	175
Figure 135	C:Building 10: northeast corner of room B	176
Figure 136	C:Building 10: north wall of room B	176
Figure 137	C:Building 10: wall between room C and room B	176
Figure 138	C:Building 10: butting of the south wall of room B	177
Figure 139	C:Building 10: internal elevations of the surviving walls	178
Figure 140	Site D: plan, period D12.8 and D12.9-10	181
Figure 141	A CBW bung-hole jug	182
Figure 142	Site D: plan, period D12.11 and D12.12-13	183
Figure 143	Site D, plan, D13.1-13.2	184
Figure 144	Site D: the exterior of the south wall of St Botolph's church	185
Figure 145	Site D: rendering on the outside of the south wall of St Botolph's	185
Figure 146	Site D: plan, D13.3-13.4 and D13.5-7	186
Figure 147	Site D: plan, period D14.1-14.2	189
Figure 148	Site D: period D14.2	190
Figure 149	Site D: plan, D14.3-14.4	191
Figure 150	Site D: D: Building 5 undercroft	192
Figure 151	Site D: period D14.3, details of undercroft of D:Building 5	193
Figure 152	The east side of site C (New Fresh Wharf) in 1974	194
Figure 153	Site D: plan, period D14.7 and D14.8-9	195
Figure 154	Site D: plan, period D14.11 and D15.1-2	196
Figure 155	Site D, period D15.1, south extension of church	197
Figure 156	Site D: skeleton D[937]	198
Figure 157	Site D: the two brick-lined graves of period D15.2	198
Figure 158	Site D: fragment of papal lead seal of Urban VI, D<983> [676]	198
Figure 159	Site D: reconstructed section along the interior of the east wall of St Botolph's church	200
Figure 160	Site D: excavation in progress, 1982	200
Figure 161	The opening page of the parish cartulary of St Botolph Billingsgate	203
Figure 162	Site D, watching brief: angel corbel	205
Figure 163	Rubbing of a shield from a monumental brass of c 1500 (S Freeth)	206
Figure 164	Edinburgh University Library MS 39, a Book of Hours	208
Figure 165	Site D watching brief, 1983-4	209
Figure 166	Site D watching brief 1983-3: silver brooch BWB83 [306] <714>	209
Figure 167	CHEA rounded jug	213
Figure 168	Extract from a view reconstructing the Savoy Palace	216
Figure 169	Queenhithe (above) and Billingsgate (below) on the Wyngaerde panorama of about 1540	217
Figure 170	The iron strongbox of the Dyers' Company	220
Figure 171	Site B: bronze animal-form candleholder base B[207] <18>	224
Figure 172	The riverwards ends of sites A, B and a view of Fishmongers' Hall	224
Figure 173	The riverwards ends of sites A, B and a view of Fishmongers' Hall	226
Figure 174	The riverwards ends of sites A, B and a view of Fishmongers' Hall	226
Figure 175	Site C: sketchplan of Tenements 9 to 14 in period P1	228
Figure 176	C:Building 10, room C	231
Figure 177	C:Building 11: the sump in the cellar (room B)	231
Figure 178	Pottery from fre[511], the fill of the drain leading from C:Building 11 to the river, dating to 1612-30	232
Figure 179	Site D: plan, period D15.3-6	240
Figure 180	Site D: the east end of St Botolph's in period D15.3	241
Figure 181	Site D: period D15.3, tile floor 1 at the east end of St Botolph's	241
Figure 182	Site D: period D15.3, pier inserted in the south wall of the church extension	242
Figure 183	Site D: period D15.3, lead water pipe inserted into the modified south wall of the extension	242
Figure 184	Site D: three medieval decorated floor tiles from the northeast part of tile floor 1 in period D15.3	243
Figure 185	Site D: plan, period D16.1-4	244
Figure 186	Site D: chamfered pier of period D16.2	245
Figure 187	Site D: period D16.2, the new steps in the door of St Botolph's to the lane	245
Figure 188	Excavation of the burials of period D16.3 or period D16.5 in progress	245
Figure 189	Site D: plan, period D16.5	246
Figure 190	Site D: period D16.5, skeleton [342]	248
Figure 191	Site D: papal seals D[1086] <1038> and D[675] <796>	248
Figure 192	Site D: period D16.6, the blocking of the church door in the lane	249
Figure 193	Site D, period D16.6: St Botolph's church	250
Figure 194	Site D: the drain below D:Building 7 room A	252
Figure 195	Site D: D:Building 7, room B	252
Figure 196	Mid 17th-century TGW plate	253
Figure 197	Site D: period D15.4, Metropolitan slipware dish from drain fill D[1389]	254
Figure 198	Site D: period D15.4, Metropolitan slipware rounded jug from drain fill D[1389]	254
Figure 199	Site D: period D15.4, tin-glazed ware mug	254
Figure 200	Site D: period D15.4, Frechen stoneware Bartmann jug from drain fill D[1389]	254
Figure 201	Site D: period D15.4, pewter lid from a Westerwald stoneware mug from drain fill D[1389]	255



Figure 202	Site D: plan, period D15.7–9 .....	256
Figure 203	Site D: D:Building 6 .....	257
Figure 204	Site D: north part of drain in D:Building 6.....	258
Figure 205	Site D: D:Building 6 drain in room A .....	258
Figure 206	Site D: D15.9, Staffordshire embossed slipware plate .....	259
Figure 207	Site D: D15.9, White vessel glass .....	259
Figure 208	Site D: plan, period D15.10 .....	260
Figure 209	Site D: D:Building 5, the new threshold and protection for the windows.....	261
Figure 210	Site D: D:Building 5 in period D16.1 .....	261
Figure 211	Site D: D:Building 5, blocked window in period D16.1 .....	262
Figure 212	Site D: D16.1, Raeren stoneware statuette of woman with elaborate head dress .....	263
Figure 213	Site D: plan, period D16.6–8 .....	264
Figure 214	Site D: period D16.7, part of a tin-glazed hexagonal floor tile D[1627] <5041> (<T7>) .....	265
Figure 215	Site D: period D16.7, tin-glazed ‘medallion’ type floor tile D[1409] <5061> (<T12>) .....	265
Figure 216	Site D: period D16.7, tin-glazed wall tiles from D[1389]: left, <1808> (<T17>) .....	266
Figure 217	Site D: A complete wall tile from a site in Botolph Lane, north of the Billingsgate site, excavated in 1995 .....	266
Figure 218	Site D: Dutch wall tile D[575] <1000> (<T16>) .....	266
Figure 219	Site D: D16.8, tin-glazed floor tile from repairs to the lane D[424] <772> .....	268
Figure 220	The waterfront immediately downstream of London Bridge around 1540 .....	269
Figure 221	The waterfront downstream of London Bridge.....	270
Figure 222	Site C: C:Building 11, the cellar behind the streetside house (room B) .....	275
Figure 223	Site C: painted inscription on a leather fire bucket C[41] <2> .....	275
Figure 224	Site D: the east end of St Botolph’s after the Fire.....	276
Figure 225	Sketchmap of the waterfront area of the City of London, with Thames Street and the bridge highlighted .....	276
Figure 226	Recording excavated timbers on site D, 1982 (Sharon Pallent) .....	282
Figure 227	Toolmarks on waterfront timbers from site D: D[6944] .....	283
Figure 228	Site D: detail of D:Waterfront 14 .....	286
Figure 229	Site D: detail of the assembly marks on the inner, landward side of D:Waterfront 14.....	286
Figure 230	39 Strand Street, Sandwich, of the 1330s, partly reconstructed.....	288
Figure 231	Site D: a detail of the east wall of the extension of St Botolph’s church in the middle of the 15th century .....	291
Figure 232	Buildings along Haywharf Lane and at the river’s edge .....	295
Figure 233	Site D: isometric sketch of the excavated buildings in period D15.9.....	296
Figure 234	Development of the church of St Botolph Billingsgate, from the 12th century to 1666.....	301
Figure 235	Plans of medieval churches in the area around London Bridge in their immediately pre-Fire form .....	303
Figure 236	Site A: pilgrim souvenir from the shrine of the Virgin at the Carmelite Friary in Toulouse (A<2150>) (<S54>).....	311
Figure 237	Detail of leather strap with lead-tin mounts from site D, <S139>.....	313
Figure 238	The four sections of the Billingsgate Trumpet.....	316
Figure 239	X-ray of the mouthpiece section .....	316
Figure 240	A half-round wire serves as a rim to cushion the embouchure .....	317
Figure 241	X-ray of the plain repaired section .....	317
Figure 242	X-ray of the knob section .....	318
Figure 243	Close-up of the knob and the short ferrule at the beginning of the knob section (3) .....	318
Figure 244	Black (tarnished silver) tab seam on the bell and narrow garland with one engraved line.....	319
Figure 245	Original hole in the bell and the garland for banner attachment .....	319
Figure 246	Just below the knob, the bell section is joined .....	320
Figure 247	Decretals of Gregory IX with glossa ordinaria (the ‘Smithfield Decretals’), Southern France .....	322
Figure 248	Luttrell Psalter, East Anglia, ca. 1325–35, showing two ship’s trumpeters with straight instruments .....	322
Figure 249	Site D: decorated floor tiles <T1> to <T5> .....	373
Figure 250	Site D: floor tile from Antwerp D[+] <1792> (<T9a>) .....	375
Figure 251	Site D: Aldgate tile D[761] <990> (<T10>) and early Dutch tile D[1180] <2195> (<T11>) .....	376
Figure 252	Site D, floor tiles probably made in London.....	377
Figure 253	Site D: early Dutch wall tile D[721] <965>, type <T21> .....	378
Figure 254	Site D: shouldered peg roof tiles .....	379
Figure 255	Floor tiles from the watching brief on site D (BWB83), <T32> to <T41> (1:3) .....	384
Figure 256	Osteological sex estimation distribution.....	389
Figure 257	Demographic profile .....	389
Figure 258	Adult age at death profile .....	389
Figure 259	Skeleton D[565] .....	391
Figure 260	Skeleton D[565] right tibia .....	391
Figure 261	Osteophytosis distribution by age and sex.....	393
Figure 262	Spinal osteoarthritis by age and sex .....	393
Figure 263	Intervertebral Disc Disease distribution by age and sex.....	393
Figure 264	Schmorl’s Nodes in adults by sex.....	394
Figure 265	Schmorl’s Nodes in adults by age .....	394
Figure 266	Detail of DISH on spine of skeleton D[783], possibly John Reynewell .....	395
Figure 267	Skeleton D[974]: distal end of the left and right femur of an older male .....	395
Figure 268	A, skeleton D[1091] ; B, left and right metatarsal (bone in the foot) of D[1091] .....	396
Figure 269	Skeleton D[938] .....	398
Figure 270	Skeleton D[131] .....	399

Figure 271	Skeleton D[967]	400
Figure 272	Skull of female D[905]	400
Figure 273	Skeleton D[505] endocranial (inner) view of the frontal surface of the cranium	401
Figure 274	Skeleton D[471]	403
Figure 275	Skeleton D[1159]	403
Figure 276	Skeleton D[301] multiple linear enamel hypoplastic defects in the mandibular canines and premolars	404
Figure 277	Skeleton D[580] Calculus affecting the maxillary and mandibular teeth	404
Figure 278	Rose Johnson spraying the timbers of D:Waterfront 14	415
Figure 279	D:Waterfront 14, on display in the medieval gallery of the Museum of London, 2016	416
Figure 280	The upper part of D:Waterfront 14 in 2016	416
Figure 281	Sites B, C and D on the modern map of Thames Street	461
Figure 282	Site B: section on west side of the excavation	463
Figure 283	Site B: section on the west side of the excavation	466
Figure 284	Site B: section on the east side of the excavation	471
Figure 285	Site C: Elevation 1	474
Figure 286	Site C: Elevation 2	475
Figure 287	Site C: Section 9	476
Figure 288	Site C: Section 10	477
Figure 289	Site C: Section 11	478
Figure 290	Site C: Section 12	479
Figure 291	Site C: Sections 13	480
Figure 292	Site C: Section 8	482

## List of Tables

Table 1	Observed changes over time on the study sites in Thames Street .....	xvi
Table 2	The four study sites.....	1
Table 3	The wider group of archaeological sites on both banks of the River Thames which are discussed in this report.....	4
Table 4	Summary of main reclamation dumps and foreshores with finds from the study sites .....	13
Table 5	Numbers of medieval small finds from the study sites published .....	13
Table 6	Overall periods for this project, including those to be used in the future report on the periods after 1666 .....	14
Table 7	Numbering conventions used in this publication, and abbreviations for types of archaeological evidence .....	15
Table 8	Concordance of periods between the four sites, within the four overall periods of the study .....	16
Table 9	Site A: summary dating of land use units, period A2.....	24
Table 10	Site A: summary of dating evidence for revetments, dumps and foreshores, period A2 .....	27
Table 11	Site B: stratigraphic groups in period M1.....	31
Table 12	Site B: dating Table for period B3 .....	34
Table 13	Site C: periods of the excavated strata corresponding to period M1.....	38
Table 14	Site D: periods D6 and D7 (12th century), stratigraphic phases and dating evidence .....	47
Table 15	Summary of development of the sites in period M1 .....	51
Table 16	Dating evidence and artefacts from period M1 .....	55
Table 17	Site A: assignments of reclamation and foreshore dumps to individual tenements in period M2.....	61
Table 18	Dating summary for Tenement 1, 1200–1350.....	63
Table 19	Dating summary for Tenement 2, 1200–1350.....	69
Table 20	Dating summary for Tenement 3, 1220–1350.....	77
Table 21	Dating summary for Tenement 4, 1220–1350.....	78
Table 22	Summary of site A, period M2 (1220–1350); comparison of archaeological and documentary evidence.....	80
Table 23	Site B: stratigraphic groups in period M2 (1200–1350) on Tenement 6.....	81
Table 24	Summary of site C, period M2 (1200–1350) .....	107
Table 25	Summary of Site D (Billingsgate) in period M2 (1200–1350) .....	108
Table 26	Site D: period D8 (1235+), stratigraphic phases and dating evidence .....	110
Table 27	Site D: period D9, stratigraphic phases and dating evidence .....	115
Table 28	Site D: period D10 (13th century), stratigraphic phases and dating evidence .....	120
Table 29	Summary of all tenements in period M2, 1200–1350.....	136
Table 30	Dating evidence and artefacts from period M2 .....	141
Table 31	Site A: dumps and foreshores in period A6 .....	148
Table 32	Site A: dumps and foreshores of the 15th century (period A7).....	151
Table 33	Site A: dumps and foreshores of Groups 102–106, 15th century.....	153
Table 34	Dating summary for Tenement 3, 1350–after 1500 (overall period M3).....	162
Table 35	Dating summary for Tenement 4, 1350–after 1500 (overall period M3).....	164
Table 36	Site B: stratigraphic groups in period B7.3–5 and B8.1 .....	165
Table 37	Site C: the different designs in the tile floor B[177].....	168
Table 38	Site D: developments in period M3, 1350–1500 .....	179
Table 39	Site D: details of human skeletons in burials in period D15.2 .....	197
Table 40	Summary of all the tenements in period M3, 1350–1500.....	210
Table 41	Some of the imports to London in 1567/8, and their port of origin (Dietz 1972) .....	215
Table 42	Site B: correspondence between periods, excavated buildings and documentary references for period P1.....	223
Table 43	Lessees of Botolph Wharf from 1509 to 1680 .....	234
Table 44	Site D: periods and phases of period P1 (1500–1666) in order of presentation .....	235
Table 45	Site D: human skeletons in period D16.3 and D16.4.....	244
Table 46	Site D: details of human skeletons in burials in period D16.5 .....	247
Table 47	Site D: the archaeological phases in periods D15.4 to D16.8 which relate to the activities of Thomas Soane .....	251
Table 48	Summary of all the tenements in period P1, 1500–1666.....	271
Table 49	Model of main developments on the study sites.....	278
Table 50	Summary answers to the research questions of the study.....	279
Table 51	Heights above modern sea level of features of excavated sites on both sides of the Thames, 1100–1666.....	281
Table 52	Suggested translations of terms used in inventory of 1368 .....	293
Table 53	The homes of dyers according to their wills in the Commissary Court of London, 1374–1488.....	299
Table 54	Artefacts catalogued in the <i>Medieval finds</i> series, 1987–98.....	306
Table 55	Summary of illustrated non-ceramic artefacts in their stratigraphic groups from sites A and B .....	307
Table 56	Diameter measurements.....	317
Table 57	Semi-quantitative XRF analysis in % .....	320
Table 58	Qualitative analysis of solder material found in seams and repair elements.....	321
Table 59	Expansions of pottery fabric codes used in this report .....	328

Table 60	Summary of pottery vessel form codes .....	329
Table 61	Suggested revisions to the Ceramic Phases used in pottery studies .....	336
Table 62	Site A: overall quantification of the medieval pottery by sherd count .....	338
Table 63	Site B: overall quantification of the medieval pottery by sherd count.....	339
Table 64	Site A: medieval and post-medieval pottery of note mentioned in the text by ware category and fabric.....	342
Table 65	Site B: medieval and post-medieval pottery of note mentioned in the text, by ware category and fabric.....	345
Table 66	Site A and site B: overall quantification of the medieval pottery from contexts discussed in this report .....	346
Table 67	Site A and site B: broad quantification of the medieval pottery from period M1.....	346
Table 68	Site A and site B: broad quantification of the medieval pottery from period M2.....	347
Table 69	Site A and site B: broad quantification of the medieval pottery from period M3.....	347
Table 70	Site A and Site B: Overall quantification of the post-medieval pottery from contexts.....	357
Table 71	Site A: overall quantification of the post-medieval pottery by sherd count .....	357
Table 72	Site B: overall quantification of the post-medieval pottery by sherd count .....	358
Table 73	Period P1: broad quantification of the medieval and post-medieval pottery from site A and site B .....	358
Table 74	Period P2: broad quantification of the medieval and post-medieval pottery from site A and site B .....	359
Table 75	Period M1: broad quantification of the medieval pottery from site A and site B by sub-period .....	359
Table 76	Period M2: broad quantification of the medieval pottery from site A and site B by sub-period .....	360
Table 77	Period M3: broad quantification of the medieval and later pottery from site A and site B by sub-period .....	363
Table 78	Site A and site B: broad quantification of the medieval and post-medieval pottery from period P1 by sub-period .....	365
Table 79	Site A and site B: broad quantification of the medieval and post-medieval pottery from period P2 .....	365
Table 80	Site C: quantification of pottery by period and landuse .....	366
Table 81	New Fresh Wharf (site C): notable medieval and post-medieval sherds, <P> profiles .....	369
Table 82	Site D: groups of Low Countries floor tiles from period D16.5 .....	371
Table 83	Decorated 'Westminster' floor tile designs from site D.....	372
Table 84	Decorated Penn floor tile designs from site D .....	372
Table 85	Tin-glazed floor tiles from site D .....	375
Table 86	Tin-glazed wall tiles from site D.....	378
Table 87	Yellow and cream bricks from site D.....	381
Table 88	Sizes of red coloured bricks from site D.....	382
Table 89	Site D: summary of <T> types of floor tiles, wall tiles, roof tiles and brick; type <T1> to <T31> .....	383
Table 90	Site D: skeletons, basic data for securely provenanced skeletons .....	388
Table 91	Site D: skeletons with deficient stratigraphic data .....	388
Table 92	Non-metric traits.....	402
Table 93	Site B (Seal House): correspondence between building numbers and the original building letters on plans .....	418
Table 94	Site C (New Fresh Wharf): correspondence between building numbers and original building letters on plans .....	418
Table 95	Site A: dating evidence for period A1.....	419
Table 96	Site A: dating evidence, Gp 24, Gp 26 .....	419
Table 97	Site A: dating evidence, Gp 28 .....	419
Table 98	Site A: dating evidence, Gp 30 (1170–1200+; later than Gp 28).....	419
Table 99	Occurrence and dates of medieval lead tokens in Swan Lane deposits .....	419
Table 100	Site A: dating evidence, Gp 42 (1170–1200) .....	420
Table 101	Site A: dating evidence for period A2 on Tenement 2 .....	420
Table 102	Site A: dating evidence for period A2 on Tenement 3 .....	421
Table 103	Site A: dating evidence for period A2 on Tenement 4 .....	422
Table 104	Site B: dating table for period B4 (1180–1200).....	422
Table 105	Site C: dating table for silting in area of Tenement 9 in period M1 .....	422
Table 106	Dating summary for Tenements 10 and inlet in period M1.....	423
Table 107	Site C: dating summary for Tenement 11 in period M1 .....	423
Table 108	Site C: dating summary for Tenement 12 in period M1 .....	423
Table 109	Dating summary for Tenement 13 in period M1 .....	424
Table 110	Dating summary for Tenement 14 in period M1 .....	424
Table 111	Site A: dating evidence from Gp 35.....	424
Table 112	Site A: dating evidence, Gps 49 and 58 .....	424
Table 113	Site A: dating evidence, reclamation Gp 70 and Gp 54, A:Building 25 on Tenement 1 .....	425
Table 114	Site A: dating evidence, Gp 38 and Gp 52.....	425
Table 115	Site A: dating evidence, Gp 61 .....	426
Table 116	Site A: dating evidence for period A4 on Tenement 2 .....	426
Table 117	Site A: dating evidence, Gp 74 .....	428
Table 118	Site A: dating evidence for period A3 on Tenement 3 .....	428
Table 119	Site A: dating evidence for period A4 on Tenement 3 .....	429
Table 120	Site A: dating evidence for period A5 on Tenement 3 .....	429
Table 121	Site A: dating evidence, Gp 45 [Egan].....	430
Table 122	Site A: dating evidence, Gp 55 .....	430
Table 123	Site A: dating evidence, Gp 67 .....	430
Table 124	Site B: dating evidence for period B5.1 (Gps 29, 31b, 32–8) .....	431
Table 125	Site B: dating evidence for period B5.2 (Gps 39, 41, 53).....	431
Table 126	Site B: dating evidence for Gp 42, destruction of B:Building 2.....	432
Table 127	Site B: dating evidence for Gps 40, 43 and 50.....	432
Table 128	Site B: dating evidence from Gps 44 and 45 (period 6.3) (1240–70).....	433

Table 129	Site B: dating evidence for Gps 49, 51, 54, 81 and 88 (period B7.1) (1270–1300).....	434
Table 130	Site B: dating evidence, Gps 52a-b, 55–9, 62–5, 76–7, 82, 89 (period B7.2) .....	436
Table 131	Site C: dating evidence for dumping on Tenement 9, period M2 .....	436
Table 132	Site C: dating evidence for dumping on Tenements 10–11 and C:Buildings 6–7 .....	437
Table 133	Site C: dating evidence for dumping associated with C:Waterfront 4 on Tenement 11 in period M2 .....	437
Table 134	Site C: dating evidence for C:Building 8 in period M2 .....	437
Table 135	Site C: dating evidence for C:Building 9 in period M2 .....	437
Table 136	Site C: dating evidence for dumping on Tenement 13 in period M2 .....	438
Table 137	Site C: dating evidence for dumping on Tenement 14 in period M2 .....	438
Table 138	Site D: period D11.1 (late 13th century), dating evidence .....	438
Table 139	Dating table for A:Waterfront 14 and associated features .....	438
Table 140	Site A: dating evidence, Gp 77 .....	438
Table 141	Site A: dating evidence, Gp 80 .....	438
Table 142	Site A: dating evidence, Gp 85 .....	439
Table 143	Site A: dating evidence, Gp 100 .....	439
Table 144	Site A: dating evidence, Gp 93 .....	439
Table 145	Site A: dating evidence, Gp 95 .....	440
Table 146	Site A: dating evidence, Gp 102 .....	440
Table 147	Site A: dating evidence, Gp 103 .....	441
Table 148	Site A: dating evidence, Gp 104 .....	441
Table 149	Site A: dating evidence, period A6 on Tenement 1 .....	441
Table 150	Site A: dating evidence, A period 6 on Tenement 3 .....	441
Table 151	Site A: dating evidence, period A7 on Tenement 3 .....	442
Table 152	Site A: dating evidence for Tenement 4 in period M3 .....	442
Table 153	Site B: dating evidence Gps 61 and 72 (period B7.3–5) .....	442
Table 154	Site B: dating evidence for period D8.1 .....	443
Table 155	Site C: dating evidence for C:Building 10 .....	443
Table 156	Site A: dating table for Waterfront A18 .....	443
Table 157	Site B: dating evidence from Gps 75, 91, 87, 92–7, 104–6, 116, 52c and 60 (period 8.2) .....	444
Table 158	Site B: dating evidence for Gps 86, 98, 100, 103, 101 and 70 (period 8.3) and Gp 102 (period 8.4) .....	445
Table 159	Site C: dating evidence for C:Building 8 in period P1 .....	445
Table 160	Site C: dating evidence for C:Building 10, occupation levels .....	445
Table 161	Site C: dating evidence for C:Building 11 in period P1 .....	446
Table 162	Section drawings, elevations and plans for medieval and later buildings at Sites B and C .....	461
Artefact Table 1	Site A (Swan Lane): artefacts from Gp A24 (1140–80) .....	446
Artefact Table 2	Site A (Swan Lane): artefacts from Gp A26 (1140–50 with intrusions of 1270–1350) .....	446
Artefact Table 3	Site A (Swan Lane): artefacts from Gp A28 (1180–1200) .....	446
Artefact Table 4	Site A (Swan Lane): artefact from Gp A30 (1170–1200+) .....	446
Artefact Table 5	Site A (Swan Lane): artefacts from Gp A42 (1170–1200). Those marked * are illustrated .....	447
Artefact Table 6	Site B (Seal House): artefacts from period M1 (Gps B5, B11, B9, B19, B20) (1100–1200) .....	447
Artefact Table 7	Site D (Billingsgate): artefacts periods D6.1, 7.3, 7.7, 7.10, 7.13 .....	447
Artefact Table 8	Site A (Swan Lane): artefacts from Gp A49. The object marked * is illustrated .....	447
Artefact Table 9	Site A (Swan Lane): artefacts from Gp A38 (1180–1200 with intrusions) .....	447
Artefact Table 10	Site A (Swan Lane): artefacts from Gp A52 (1230–70) .....	447
Artefact Table 11	Site A (Swan Lane): artefacts from Gp A61 .....	448
Artefact Table 12	Site A (Swan Lane): artefacts from Gp A74 .....	450
Artefact Table 13	Site A (Swan Lane): artefacts from Gp A45[Egan] .....	450
Artefact Table 14	Site A (Swan Lane): artefacts from Gp A55[Egan] .....	451
Artefact Table 15	Site A (Swan Lane): artefacts from Gp A67 .....	451
Artefact Table 16	Site B (Seal House): artefacts from Group B31b, dumping behind B:Waterfront 3 (c 1240) .....	451
Artefact Table 17	Site B (Seal House): artefacts from Group B54, period B7.1 .....	451
Artefact Table 18	Site B (Seal House): artefacts from Gps B52a and B52b .....	451
Artefact Table 19	Site D (Billingsgate): objects from period D8.1 .....	452
Artefact Table 20	Site D (Billingsgate): objects from period D8.2, D9.2 and D9.3 .....	452
Artefact Table 21	Site D (Billingsgate): objects from period D10.1 .....	452
Artefact Table 22	Site D (Billingsgate): objects from period D10.14 and D10.15 .....	453
Artefact Table 23	Site D (Billingsgate): objects from period D11.1 .....	453
Artefact Table 24	Site D (Billingsgate): objects from period D11.3–4 and D11.7 .....	453
Artefact Table 25	Site D (Billingsgate): objects from period D12.1 .....	454
Artefact Table 26	Site D (Billingsgate): objects from period D12.3 and D12.5 .....	454
Artefact Table 27	Site A (Swan Lane): objects from Gp A77 .....	454
Artefact Table 28	Site A (Swan Lane): objects from Gp A80 .....	454
Artefact Table 29	Site A (Swan Lane): artefacts from Gp 85 .....	455
Artefact Table 30	Site A (Swan Lane): artefacts from Gp A100 .....	455
Artefact Table 31	Site A (Swan Lane): artefacts from Gp A93 .....	455
Artefact Table 32	Site A (Swan Lane): artefacts from Gp A95 (excavated under salvage conditions) .....	455
Artefact Table 33	Site A (Swan Lane): artefacts from Gp A102 .....	456
Artefact Table 34	Site A (Swan Lane): artefacts from Gp A103 (15th century, with some contamination of sherds to 1600) .....	459
Artefact Table 35	Site A (Swan Lane): artefacts from Gp A104 .....	459

Artefact Table 36 Site B (Seal House): artefacts from Gp B61 .....	459
Artefact Table 37 Site D (Billingsgate): artefacts from period D13.1-4 and D13.7 .....	459
Artefact Table 38 List of all illustrated small finds <S1> to <S156> with their site contextual information .....	460



## Summary

This publication brings together the archaeological and documentary evidence for a number of medieval and post-medieval secular properties and a parish church on four waterfront sites excavated in Thames Street in the City of London by the Museum of London in 1974–84: from west to east, Swan Lane (site A), Seal House (site B), New Fresh Wharf (site C) and Billingsgate Lorry Park (site D) (for locations, see Figure 12 and Figure 13). Here the findings for the period 1100 to 1666 (the Great Fire of London) are presented.

The waterfront excavations in London, which began in 1972, have produced great advances in our knowledge about the nature of reclamation on the river bank and extension of properties into the river. The inclusion of thousands of artefacts and pottery sherds in the reclamation and foreshore deposits are an unequalled catalogue of the material culture of medieval London; and the carpentry of the wooden revetments tells us about medieval buildings which have otherwise not survived in London (and some examples are earlier than the earliest standing buildings in other medieval towns). The excavation narrative is arranged in four consecutive periods from 1100 to 1666. The nature of London's waterfront, including its public buildings and Thames Street itself, is considered for each period; the developing relationship of the waterfront area to the rest of the medieval and Tudor City of London is also outlined.

The wider area of the study is the waterfront south of Thames Street between the sites of the 11th-century All Hallows the Great church in the west (today just to the east of Cannon Street railway station viaduct) and the probably 10th-century Billingsgate dock in the east, a length of about 475m (about 1550ft). Just over half way along this length of waterfront, the north end of medieval London Bridge met the bank of the river and the street. The focus of research is two blocks of properties, eight tenements upstream of the Bridge, labelled for this study Tenements 1–8; and a second block downstream of the bridge, labelled Tenements 9–16. Generally it was only the parts nearest to

Thames Street, which would have contained the most important buildings, which were excavated; documents, early views and maps provide context and setting. Excavations here of 1974 to 1984 are the main focus of this study, but more recent excavations of 2003–6 on some of the same properties and nearby are fitted into the narrative, with their complementary results.

Between 1100 and 1666 the waterfront of the City of London, between Thames Street and the River Thames, literally grew by extension into the river until fossilised by the erection of stone river walls. By the end of the main period of reclamation, around 1450, the new land south of the street could be up to 100m wide, formed by innumerable expansions on private properties, which had the effect of making indented inlets or docks for ships at Queenhithe and Billingsgate. Earth and rubbish were used to make the reclamation units, which are often dated by the dendrochronology of timbers used in the waterfront structures (Figure 1).



Figure 1 The early 13th-century waterfront excavated on the Billingsgate site, 1982, looking north from the river side. The section of revetment on the left (D:Waterfront 14), dated by dendrochronology to about 1235, was later conserved and displayed in the Medieval Gallery of the Museum of London

Over the five and a half centuries studied here, changes in the topography, building design and material culture

Period	Properties and buildings, building materials	Pottery	Non-ceramic artefacts
M1 1100–1200/1220	extensive reclamation; buildings of stone and timber on the reclaimed land; dyehouses	London-type wares predominate	a limited range, but already the main categories of household fittings and clothing (shoes)
M2 1200–1350	more reclamation; subdivision of waterfront properties (more tenants); tiled roofs from 1200, brick appears before 1350; possible first example of glazed window	Kingston-type ware 1230, Surrey-Hants ware 1270; decline of Andenne ware and Rhenish ware imports; shift to wares from S France and Mediterranean	apparent abundance of artefacts thrown away, perhaps a consumer culture
M3 1350–1500	more subdivision; some large houses on the reclaimed land, including two livery company halls; dyehouses and brew houses interchangeable	London-type wares decline; increased import of stonewares from Rhineland	from documentary sources, massive imports of objects of all kinds, household and trade
P1 1500–1666	houses now 3–4 storeys tall; warehouses named as room functions; Dutch wall tiles a feature of buildings on site D	several types of Continental pottery, a more European culture	artefacts of this period not in this study; for future analysis

Table 1 Observed changes over time on the study sites in Thames Street

of the studied properties south of Thames Street can be observed (Table 1).

The documentary history of these tenements is among the richest that can be provided for any secular properties in the City. The history of owners and tenants can be reconstructed, and information compared with the archaeological findings to study public and private space, the network of waterfront alleys, the components of tenements and the process of subdivision, specialised buildings and equipment, warehouses and cranes. There are also detectable differences in land use above and below the Bridge, particularly from the 16th century onwards. The establishment of the Legal Quays by the Elizabethan government in 1559 was probably instrumental in moving the landing places for foreign goods downstream of the bridge. This government act changed the London topography.

The study addresses several major questions. The reclamation units contained thousands of medieval and Tudor artefacts (Figure 2), and hundreds of kilos of native and foreign pottery. Where did the pottery and artefacts come from? Do they have any significance in their locations behind waterfront revetments or on foreshores, or are they all hopelessly mixed up because they were mixed up before they were brought here?

Two of the study sites, Swan Lane and Seal House (sites A and B), were particularly fruitful in this regard, and many of their major landfill units were dated by dendrochronology. Coins were present but being always residual were not useful for dating the strata. No local concentrations of individual types of artefact was noticed. The soil for the reclamation dumps was probably gathered from rubbish tips on properties all over the city;

their sources cannot now be specified (except in one case of a possibly royal source for dumps at Baynard's Castle at the west end of the City waterfront). Reclamation along the foreshore included dumps containing large amounts of broken pottery from the second half of the 11th century. From the pottery, the conclusion has been that reclamation dumps were usually of slightly mixed date, whereas the foreshores contained more contemporary material. It is not possible to rely on the finds from a particular reclamation dump to date its deposition by themselves; nor, as they were almost certainly brought from further afield, can they tell us about activities taking place in a particular waterfront tenement. The foreshores are no better, and their strata have been more fluid during their long existence.

Objects can however speak. The thousands of medieval and post-medieval artefacts tell us about specific aspects of culture, fashion and religious beliefs. The range of these everyday things, the evidence of mass production of, for example, buckles, belt fittings and dress ornaments, and the sheer number of near-identical items bear witness to the thriving market for the consumption of goods that documentary sources attest. Many of the artefacts were probably imported objects, but research has yet to show this by analysis of them. We can explore how the finds on London waterfront sites in general contribute to a suggestion that the early modern consumer revolution and consumerism began not in the 18th century, but in the late Middle Ages. Along with a consumer society came fashion, which can be detected in the objects.

Objects are intimate evidence of the beliefs of Londoners, whether an elaborate pilgrim souvenir from Canterbury or seals from indulgences, buried with





Figure 2 Artefacts from reclamation deposits: clockwise from top left, a group of armorial mounts with identical shields, found probably surrounded by coarse cloth on site A, probably mid 15th century, from horse harness or for fitting to swords; a 17th-century Metropolitan ware jug from site D; fragment of a 16th-century tin-glazed floor tile made in Antwerp, from site D; and a shoe from an 12th-century reclamation deposit at site B, with an embroidered vamp stripe. For detailed information on the objects, see the figures showing them later in this text



people. At the beginning of the 16th century England seems to have been one of the most Catholic countries in Europe. A study of pilgrim badges largely from the waterfront sites as a whole has shown that badges from 39 sites in Britain and 109 sites in Continental Europe, from Vadstena in Sweden to Bari in Italy, have been found in London; and many come from the sites in this volume. The medieval waterfront silts also produced the Billingsgate trumpet (so called from the site where it was found), one of the earliest surviving examples of a medieval musical instrument from Europe, and the only known example of a medieval European straight trumpet (Figure 3).



Figure 3 The Billingsgate trumpet, the only known example of a medieval European straight trumpet; found during earth-moving on the Billingsgate site, 1984. It may have been lost from a ship in the period 1260–1350

Next, there is a wish to study the the functions of the buildings and open areas on the study sites. What did the interiors of the buildings look like? How did they change over time? To what extent is this illustrated by the artefacts? To what extent can each property and new development be linked to specific owners or occupiers, as mentioned in the documentary record?

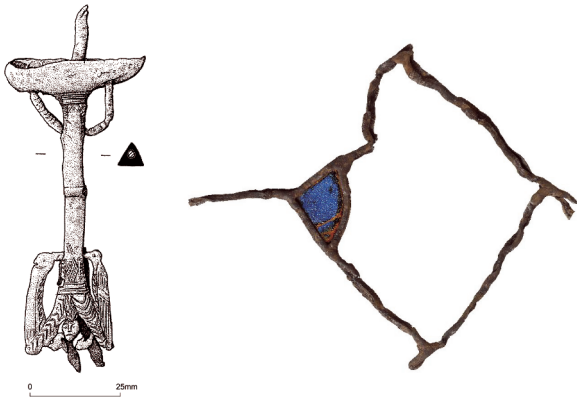


Figure 4 Household fittings and equipment from the Swan Lane site: left, an iron and lead candlestick with birds and possibly human figures, perhaps 12th-century, from a reclamation dump of 1180–1270; right, a fragment of window came with coloured glass, from a reclamation deposit of 1270–1330



Figure 5 Native and foreign 17th-century pottery from a drain on the New Fresh Wharf site, perhaps from the household of William Widmore, plasterer

The deep deposits along the waterfront, by comparison with those in most of the rest of the City of London, mean that buildings survive well; though the buildings have been altered many times and inevitably replaced during the centuries. Stone buildings, perhaps with vaulted undercrofts, were built on the reclaimed land by 1200; at Swan Lane they included a large dyehouse, active for a prolonged period. Timbers reused in waterfront structures tell us about early buildings on land; in particular, that the techniques of constructing buildings with timber frames of squared timbers and a range of joints was developed in London in the late 12th century. Important examples are found on two of the sites in this study of buildings with low walls of stone or clay which would have supported timber frames in the second half of the 13th century, a major development in medieval building technology. This study summarises what the waterfront excavations since 1972 contribute to a history of domestic buildings in London and Britain from 1100 to 1666. Their rooms and spaces include vaulted undercrofts, halls, outbuildings and yards; there is detailed evidence of doorways and windows, stairs, tile floors, and household fittings and equipment (Figure 4). As a group, the excavated buildings provide an important

collection of dated examples from the waterfront area to match others now being produced by other large archaeological projects in the City, for instance the study of the east end of Cheapside and Poultry published in 2011. We can now compare areas of the City through their medieval and Tudor building stock. This is an analysis of London's former townscape at a new level which did not seem possible a few decades ago.

The pottery in and around the buildings is generally homogeneous, and ways have not yet been found to analyse pottery in order to illustrate activities or the uses of buildings at any one moment or over time, with the notable and encouraging exceptions of the two specific exercises studying 17th-century pottery and artefacts in a drain at site C (New Fresh Wharf) (Figure 5) and scattered through several buildings and another drain at site D (Billingsgate) (Figure 6). From the rich evidence on the Billingsgate site, we can begin to elucidate the functions of rooms and spaces at a level not often possible on sites in London or elsewhere, by a conjunction of examination of the buildings, the artefacts within them, and the documentary evidence.



Figure 6 From a drain on the Billingsgate site full of artefacts, part of the household effects probably destroyed in the Great Fire: a Raeren stoneware statuette of a woman with an elaborate head dress and a pewter lid from a Westerwald stoneware mug





Figure 7 Detail from the panorama of 1647 by Wenceslaus Hollar, showing cloths hanging from poles on a building on the waterfront side of the Swan Lane (site A) site, probably part of a documented rebuilding of the property in or after 1638 as a house and dyeing establishment. The archaeological excavation took place in the area of buildings behind the waterfront

Study of the pottery shows trade and cultural links with many places around the North Sea and deep into the Rhineland; pottery made in the London area in the 12th and 13th centuries is found in British towns up to the north of Scotland, and in present-day Norway, Sweden and Denmark. This monograph presents a detailed study of the native and foreign pottery found on two of the sites, Swan Lane and Seal House for the period 1100 to 1666.

These tenements were a mixture of domestic and work buildings from the start. Industries or crafts which made or processed things are evident in the 12th-century dyeworks on the Swan Lane site, a possible fish-drying house at Seal House, and other industrial buildings to be explored in the future from debris within them. We publish a room by room inventory of Dyers' Hall, on the Swan Lane site, in 1602. What is probably another dyeworks on the waterfront south of the site is shown by Hollar in 1647 and is identified with known construction works on the site in this part, of 1638 or shortly after (Figure 7).

The dyeing industry, requiring a large amount of river water, was a feature of the area upstream of the north end of London Bridge from the 12th century, and continued to be so until the Great Fire. By the 14th century its facilities were shared with brewing establishments, which had become complexes of equal size by 1600. In the 14th to 17th centuries there was



Figure 8 Seventeenth-century tin-glazed wall tile from site D, from a building probably destroyed in the Great Fire of 1666. These tiles may have been made in the Netherlands or in Britain; they are evidence of strong cultural links with Holland

probably an industrial tone to the properties south of Thames Street, which would influence the landuse and form of the private and corporate buildings. Some buildings on site D destroyed in the Great Fire of 1666 however had Dutch tiles in their rooms (Figure 8); perhaps a fashionable European tone in richer houses among the utilitarian buildings of the waterfront.

St Botolph Billingsgate, first mentioned around 1140, expanded to the south in the middle of the 15th century through a grant to the parish by John Reynewell, mayor 1426–7, or his trustees by 1456 at the latest; a grave in the new extension contained two skeletons, and one may be Reynewell himself (Figure 9). The church extension included an existing stone building a few metres to the south, which was then incorporated into the body of the church. The function of this building, now the southernmost part of the church, is not clear, but is suggested to have formed a fraternity hall. Many aspects of the internal features and decoration of the church can be reconstructed from the survival of its accounts from the late 16th century up to the Great Fire. One intriguing find was made during the earth-moving during construction at Billingsgate in 1983–4: an impressive stone corbel carved with an angel holding a shield bearing a merchant's mark, probably from





Figure 9 Is this skeleton John Reynewell, mayor of London in 1426–7? In the extension southwards of St Botolph's in the 15th century, this man and a woman were buried in brick tombs in the middle of the new space, probably facing a new altar. The man may be the sponsor of the extension, John Reynewell (d 1445). He was a prominent City merchant who rebuilt the drawbridge gate of London Bridge during his mayoralty

the church, and possibly from the roof of Reynewell's extension (Figure 10).

Sixty-nine people were buried in the south part of the parish church of St Botolph which was excavated on the Billingsgate site. They are probably of mid 15th to mid 17th-century date. The degree of survival of human remains was good, and they form a valuable group of parish interments. In general the people had the range of skeletal pathologies and conditions seen in other contemporary London populations (Figure 11), though without evidence of tuberculosis or syphilis as might be expected. Fractures were few, though one young man had survived a blunt blow to his head and an older man had a deformity of his right hand which might have been from damage to his tendons. Various sorts of osteoarthritis and one case of gout were recorded.



Figure 10 The angel corbel found on a landfill site in the lower Thames valley, to which earth from the Billingsgate site was transported in 1983–4; probably from St Botolph's church

The results of the excavations are compared to others in London and elsewhere. From the large campaigns of urban excavation in London since the 1970s, we now have published reports on many sites. The history of this waterfront zone of the City can be compared with central sites around Cheapside, to see how the two zones were different in their buildings, material culture and development. The results from London are also compared to work on the archaeology of waterfront areas in other towns and cities for this period, both in Britain and abroad.

Though there have been many archaeological excavations along Thames Street, the archaeological resource remains in quantity and must be protected. This study proposes that some thought should be given to the preservation of the long reservoir of deep strata, from the Roman period onwards, which lies beneath most of the line of the present Upper and Lower Thames Street. A final section of this monograph presents a series of section drawings and elevations of the deep strata excavated on two of the sites, Seal House and New Fresh Wharf. They show the deposits of all the recorded periods since the Roman in the 2nd century, and serve not only to demonstrate the depth of archaeological deposit here which is unparalleled in London, but also to be part of the archive behind other previously-published studies of the sites in Roman and Anglo-Saxon times, and their large archive of artefacts and records which is held by the Museum of London.

Fundamentally, this is an account of four excavations carried out at a crucial time, the first decade of reasonable archaeological provision in the City of London; and of their artefactual material, the study



of which laid the foundations of many kinds of archaeological research in London and by imitation elsewhere in the decades which followed, and which continues to do so 40 years later. The four excavations in this study form a starting-point for further study of the material culture of the whole City because of the wealth of information recovered and the length of the archaeological sequences recorded.



Figure 11 Details from the analysis of human remains at Billingsgate: above, multiple linear enamel hypoplastic defects in the mandibular canines and premolars of skeleton D[301], a juvenile of 6–11 years; below, evidence of Diffuse Idiopathic Skeletal Hyperostosis (DISH) on the spine of skeleton D[783], possibly John Reynewell



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The main author of the site narratives and discussion sections dealing with the topography of the waterfront and its buildings is John Schofield, incorporating the detailed documentary history of the sites by Tony Dyson and supplementary documentary research by Stephen Freeth. The other principal authors are Lyn Blackmore, who studied the medieval and post-medieval pottery from Swan Lane (site A) and Seal House (site B); and Jacqui Pearce, who studied the pottery from New Fresh Wharf (site C) and one group from Billingsgate (site D). She also provided the pottery report for the more recent excavations of 2006–9 at Riverbank House, which replaced the Swan Lane building of 1982, now published separately, which is drawn on.

Brian Hobley was head of the Department of Urban Archaeology (DUA) of Guildhall Museum (from 1975, part of the Museum of London) during the whole excavation period. At New Fresh Wharf the supervisor of Areas I and II in 1974 was Gerald Clewley and the project manager David Browne; the supervisor of Area III in 1975 was John Schofield. The main assistants for both were Richard Blurton, Peter Ellis, Louise Miller, Chrissie Milne, Gustav Milne, Graham Troilett and Des Woods. We are grateful for much assistance by Jeff Moulden of the City Surveyor's Department. The watching brief of 1978 which was recorded as Areas IV and V was conducted by Louise Miller; the project manager was John Schofield.

At Seal House in 1974 the excavation took place by permission of the Fishmongers' Company. It was organised by David Browne; the supervisor was John Schofield, with assistants Tom Chilton, Geoff Parnell, Mark Redknap, Alan Thompson, Graham Troilett and Des Woods; the Finds Assistants were Hilary Kent, Merry Morgan and Lesley Morgan. Assistance was also provided at week-ends by members of the City of London Archaeological Society. We gratefully acknowledge the help of the Assistant Surveyor to the Fishmongers' Company, Mr J Hicks. The excavation and writing of the first draft excavation report was funded by the Department of the Environment, and parts of the post-excavation research by the Fishmongers' Company.

At Swan Lane in 1981 the excavation was organised by John Schofield and the supervisor of both the initial excavation trench and the later watching brief during construction in 1982 was Geoff Egan. He was assisted in the excavation by Hester White, Tim Williams and others; and during the watching brief by Ron Harris and members of the Society of Thames Mudlarks metal detector group. Both phases of work were permitted by Edger Investments Ltd and the watching brief was assisted by a grant from the City of London Archaeological Trust (CoLAT). Post-excavation pottery analysis on both the Seal House and Swan Lane sites was later made possible by grants from the Girdlers' Company and the Dyers' Company. Archive site reports are by Geoff Egan and Liz Popescu (Shepherd).

At Billingsgate in 1982 access to the site was negotiated by Brian Hobley and John Schofield. John Schofield was the project manager. The sheet piling was designed and inserted by Bryan Packman Marcel, structural engineers. The supervisor was Steve Roskams and the finds supervisor Margrethe de Neergaard. The excavation was funded by the Department of the Environment, the Corporation of the City of London, CoLAT and by a scheme of the Manpower Services Commission, part of the Department of Employment which functioned to promote employment in the years 1973–87. This enabled young people both with archaeological qualifications and without qualifications to be employed on the excavation or in the finds processing shed. The archaeologists who worked for extended periods on the excavation included Derek Gadd, Portia Askew, Dick Bluer, Prince Chitwood, Deirdre Moriarty, Jenny Norton, Julian Hill, Dick Malt, Brian Alvey, Andrew Westman, Sue Rivière, Marie Barker, Ian Blair, Peter Rowsome, Mark Burch, Mariella Ryan, Ralph Isserlin, Marie Nally, Clare Midgley, Peter Stott, Val Horsman and Jez Reeve. Rose Johnson was engaged as a conservator specifically for the site. All four excavations were funded at least in part by the Department of the Environment (later English Heritage); we thank especially Brian Davison. This department also funded dendrochronological analysis of all four sites at the University of Sheffield, which was undertaken by Ruth Morgan, Jennifer Hillam and Cathy Groves (Tyers). The text of the site narrative for Billingsgate (site D) is based

on a draft by Trevor Bringham from the archive report by Steve Roskams. The watching brief on the construction site was conducted by Geoff Egan.

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Reproduction of the drawings of artefacts from their appearance in the *Medieval finds from excavations in London* catalogues was kindly agreed to by the present publishers of those catalogues, Boydell & Brewer, and by Sean Waterman of the Picture Library at the Museum of London, which generously waived reproduction fees and produced new colour photographs of many items. The documentary research by Tony Dyson and later by Stephen Freeth was undertaken at the Corporation of London Record Office; Guildhall Library; London Metropolitan Archives and at the halls of several livery companies. The colour photographs of objects used in the following figures are copyright of the Museum of London: Figures 31, 38, 53, 62–3, 70, 74, 89, 90, 98, 101, 106, 116, 122, 128, 166, 191, 236–7.





# 1. The report: introduction

## 1.1 The four study sites

This report has three main themes or subjects: the development of the waterfront of the City of London near the north end of medieval London Bridge from about 1100 to 1666; the lives of the inhabitants of two stretches of medieval properties, above and below the Bridge, during the same five and a half centuries; and how the thousands of artefacts and tens of thousands of pottery sherds in the reclamation deposits on these sites provide many insights into the lives of people all over the City and sometimes further afield.

The project brings together the archaeological and documentary evidence for a number of medieval and post-medieval secular properties and a parish church on four waterfront sites excavated by the Museum of London in 1974–84. All four sites lie to the south of Thames Street and have river frontages. They are

close together. On the west, upstream side of both medieval and modern London Bridge are Swan Lane (now [2018] Riverbank House) and Seal House (now the Fishmongers’ Hall extension, by Holford Associates, but about to be redeveloped), while New Fresh Wharf (now St Magnus House, 1978–81 by R Seifert and Partners) and the Billingsgate lorry park (now the Northern and Shell Building, built as Simon Montagu House in 1983–5 by Covell Matthews Wheatley Partnership) are on the east, downstream side of both bridges (Figure 12). The four sites have been given initial codes of A–D from west to east regardless of the date of excavation as shown in Table 2, which also gives their main archive references (Museum of London archaeological site codes).

All the land south of Thames Street has been reclaimed from the river, in many stages since the Roman period. The Roman and Saxon features of the sites, all waterfronts or riverside embankments, have already

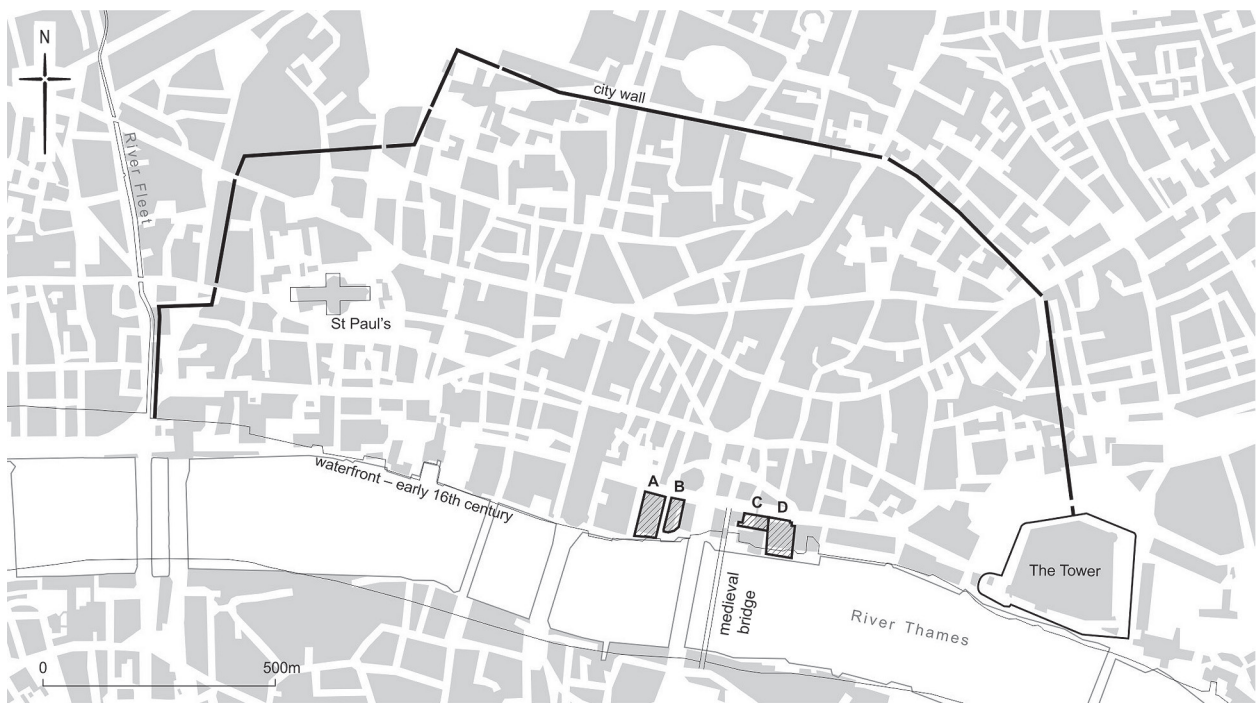


Figure 12 The City of London, showing the four sites in the study (A: Swan Lane, B: Seal House, C:New Fresh Wharf, D:Billingsgate) (1:12,500)

Prefix	Site codes	Address
A	SWA81	Swan Lane Car Park, 95–103 Upper Thames Street, EC4, 1981–2
B	SH74	Seal House, 106–108 Upper Thames Street, EC4, 1974, 1976
C	NFW74, SM75, FRE78	New Fresh Wharf, 2–6 Lower Thames Street, EC3, 1974–8
D	BIG82 (exc), BWB83 (earth moving)	Billingsgate Fishmarket lorry park, Lower Thames Street, EC3, 1982–4

Table 2 The four study sites: their prefixes used in this text, their Museum of London site codes, and addresses at the time of excavation

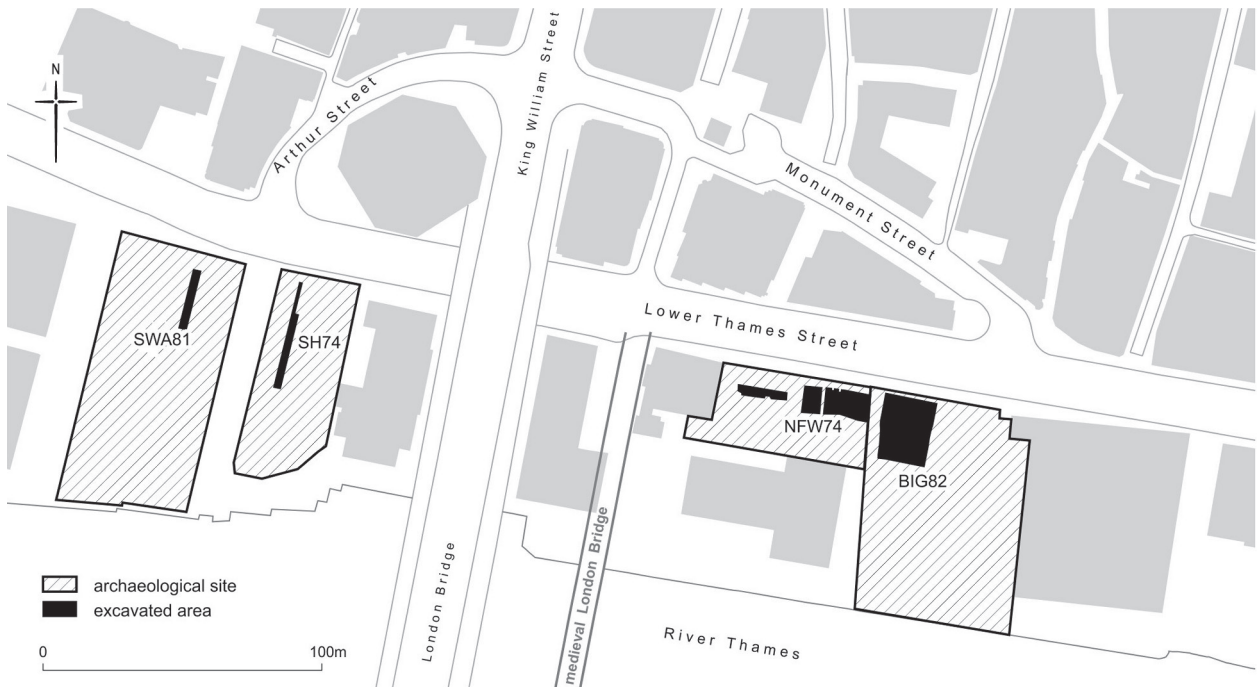


Figure 13 The sites of the four excavations south of Thames Street, in their relation to the modern and medieval London Bridges. The Museum of London sitecodes are used to identify the sites: from west to east, SWA81=Swan Lane, SH74=Seal House, NFW74=New Fresh Wharf (main trenches only) and BIG82=Billingsgate Lorry Park. The Billingsgate watching brief (BWB83) was of the larger remainder of the Billingsgate site (1:2,500)

been published.<sup>1</sup> The study area is the strip of land south of Thames Street, from a block on the west side of Swan Lane in the west to Billingsgate in the east, in the medieval and post-medieval periods to 1666. Besides the four study sites, this strip includes the north end of the medieval London Bridge of 1176–1209 (which until demolition in the 1830s lay at the foot of Fish Street Hill, slightly downstream of the present bridge), Fishmongers' Hall (1833) and a second church, St Magnus the Martyr (1668–84), which still stands as rebuilt by Wren after the Great Fire of 1666. Fishmongers' Hall can be traced back to the 14th century; St Magnus to the 11th century.

The location of the four excavations of 1974–84 in Thames Street, given here as Figure 13, shows their relationship to the modern London Bridge (1973) and the alignment of the medieval London Bridge. The present bridge is on the line of London Bridge of 1831, constructed next to and upstream of the medieval bridge, which was then demolished. Since the 19th century, the change of street name from Upper to Lower Thames Street has been at the bridge.

Post-War development of Thames Street, which has itself been progressively widened and straightened out, has been intense. In 1997 Simon Bradley noted 'outside the bombed area to the north, no area of the

City has changed as much in recent years as Upper and Lower Thames Street.'<sup>2</sup> From 1972, the north bank of the Thames within the City of London, the site of the Roman, Anglo-Saxon, medieval and post-medieval port, was excavated on a number of sites as they were developed. There was a similar emphasis, though overall less excavation, on the south bank of the Thames in Southwark, Bermondsey and Rotherhithe. The various stages of Roman reclamation and waterfronts on the north, City bank have been elucidated on several sites, and it now seems likely that virtually all the riverside of the Roman city had a formal waterfront of some sort.<sup>3</sup> The Anglo-Saxon waterfront of the 10th and 11th centuries was studied on the sites around the bridgehead and reported in 1992.<sup>4</sup> Excavations in 1972–2015 of medieval and post-medieval parts of the waterfront on both banks of the Thames will provide setting and parallels throughout the present work.

A wider group of 14 sites which are discussed in this report are shown in Figure 14, part of the map of 1747 by John Rocque.<sup>5</sup> This shows the waterfront on both banks of the Thames for about 700m either side of the medieval and post-medieval bridge. The key to the numbering of the sites, and their main archaeological publication,

<sup>1</sup> Miller *et al.* 1986; Brigham 1990; Steedman *et al.* 1992.

<sup>2</sup> Bradley and Pevsner 1997, 613.

<sup>3</sup> Brigham 1990, 136–7.

<sup>4</sup> Steedman *et al.* 1992.

<sup>5</sup> Hyde 1982.



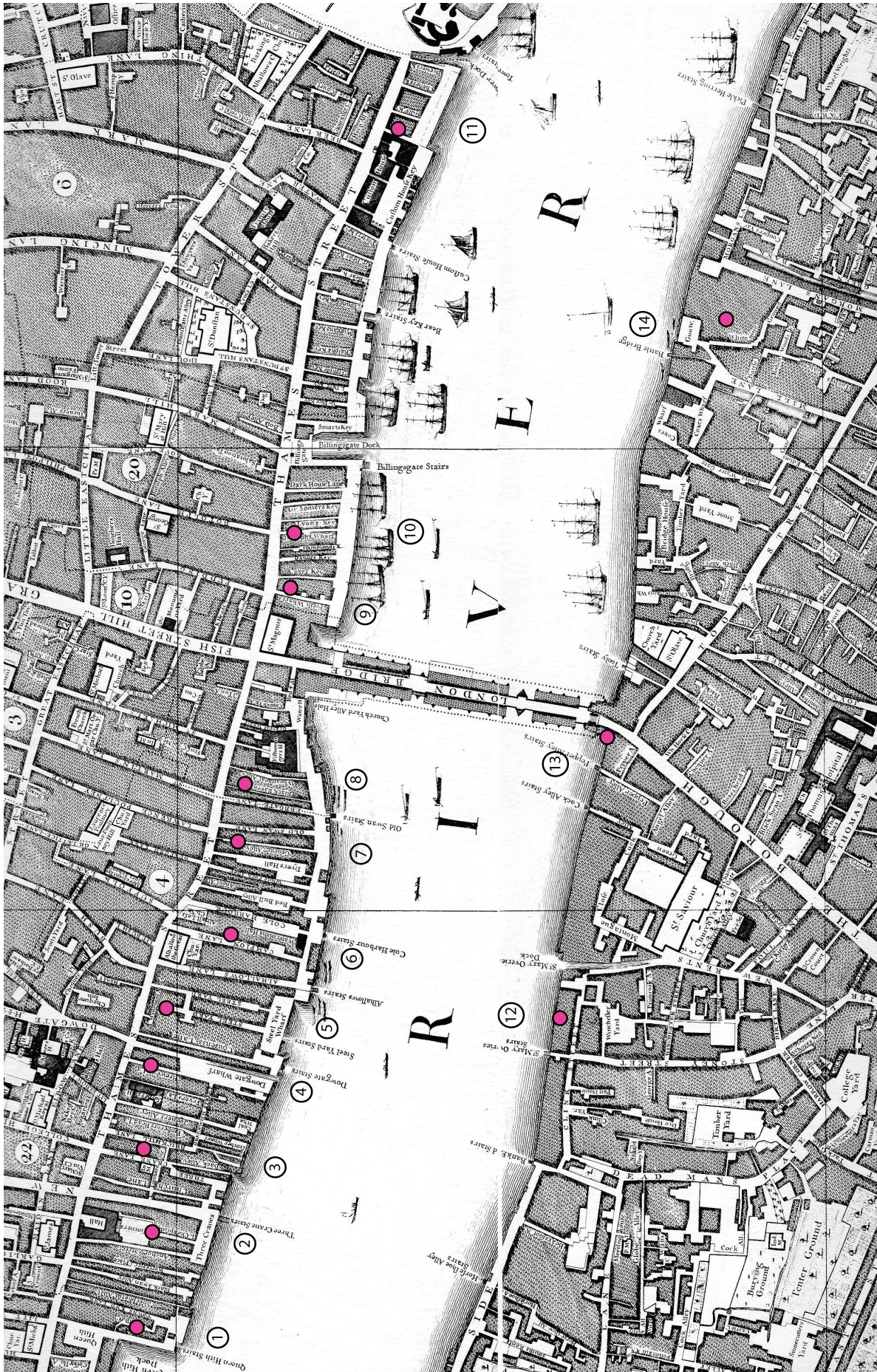


Figure 14 The central area of the waterfront of London, showing the main sites used in this study (based on Rocque 1747, from Hyde 1982). For key to the archaeological sites shown, see Table 3



Number on Figure 14	Site	Main publication
1	Bull Wharf	Ayre and Wroe-Brown 2015a, 2015b
2	Vintners' Hall and surroundings	Schofield with Maloney 1998, 297–8
3	Thames Exchange	Milne 1992
4	Walbrook	Schofield with Maloney 1998, 86
5	Steelyard	Schofield with Maloney 1998, 259–60
6	Watermark Place	Fowler and Mackinder 2014
7	Swan Lane/Riverbank House	this report; Mackinder 2015
8	Seal House	this report
9	New Fresh Wharf	
10	Billingsgate Lorry Park	
11	Custom House	Tatton-Brown 1975
12	Winchester Palace	Seeley <i>et al.</i> 2006
13	London Bridge south end	Watson <i>et al.</i> 2001
14	Dunley's Place and Fastolf Place	Blatherwick and Bluer 2009
Sites on the north bank of the Thames to the west of those shown on Figure 14		
	Trig Lane	Milne and Milne 1982
	Millennium Bridge	Ayre and Wroe-Brown 2002
	Baynard's Castle	Schofield with Maloney 1998, 84–5
	Blackfriars Station Thameslink	Stafford and Teague 2016

Table 3 The wider group of archaeological sites on both banks of the River Thames which are discussed in this report

is given in Table 3. A small number of further sites on both banks west of Queenhithe are mentioned in the text, but they are beyond the boundary of the map; they are also listed in Table 3.

The Roman, Saxon and medieval periods (to about 1500) have been explored on a good number of London waterfront sites. Post-medieval strata have been reported piecemeal from various of these sites, and studies of the Southwark and Bermondsey waterfront on the south bank downstream of London Bridge have been of both the medieval and post-medieval periods.<sup>6</sup> But the archaeology of the post-medieval London waterfront, like that of post-medieval London in general, is only now being developed. The period between about 1500 and 1666 is one of four project-wide periods studied here, with the principal space given to the large excavation at Billingsgate and what it revealed. Reporting the archaeology of the study sites after the Great Fire of 1666 is fully intended but will be a separate publication.<sup>7</sup>

At the end of each of the major periods reported here, a discussion will be presented concerning the findings, restricted to the following topics: the chronology and character of the reclamation process; the nature of buildings on the reclaimed land, suggesting their functions if possible; notable aspects of the pottery and non-ceramic finds recovered from the study sites; comparable findings on other excavated waterfront sites, on both banks of the Thames in the area of the

City of London; and comparison of the development of Thames Street around the north end of London Bridge with other areas of the City.

One important caveat is necessary. The introduction to each of the periods of the study, from the 12th century to 1666, will briefly place the excavated remains in context within the general development of the port of London. But this is not principally a study of the medieval and later facilities comprising the places where river- and sea-going boats and ships docked, such as Queenhithe and Billingsgate. This monograph is a study of the reclamation and land uses on waterfront properties immediately above and below London Bridge in the period 1100–1666. As will be seen, there is evidence for specific activities which required a waterfront location; but no real evidence on these sites of port installations in the sense of places where large ships docked. This is principally a study of land uses which could be found between the major inlets and trading places on the London waterfront. These private properties were however part of the network of landing and distribution of imported goods of all kinds, and probable points of bringing together goods for export.

## 1.2 The topographical framework of the excavations: properties and parishes

The focus of the project comprises two blocks of eight tenements: the first block upstream of the medieval bridge, labelled for this study Tenements 1–8; and a second block downstream of the bridge, labelled Tenements 9–16. Within these two blocks, the archaeological work reported here took place in 1974 to 1984 on Tenements 1–4 and 6 upstream of the bridge;

<sup>6</sup> Ayre and Wroe-Brown 2002, 58–63; Egan 2005, Blatherwick and Bluer 2009.

<sup>7</sup> Schofield in prep.

Tenement	Excavation	Parish
		WEST
1*	Swan Lane, site A, 1981–2	All Hallows the Less
2*		
3*		St Laurence Pountney
4*		
5		
Ebbgate (Swan Lane)		
6*	Seal House, site B, 1974	St Martin Orgar
7		
8		
Fishmongers' Hall and other properties		St Michael Crooked Lane
BRIDGE [medieval]		
St Magnus church		St Magnus
9	St Magnus site [SM75], part of site C, 1975	
10*		
Rothersgate		
11*		St Botolph Billingsgate
12*	New Fresh Wharf [NFW74] and watching brief [FRE78], parts of site C, 1974, 1978	
13*		
14*		
15* [inc St Botolph's church and wharf]	Billingsgate Lorry Park [BIG82], site D, 1982	
16	machine-excavated 1983–4 [BWB83]	
other properties		
BILLINGSGATE DOCK	[medieval inlet is beneath the market building of 1875]	EAST

Figure 15 Outline of medieval and post-medieval properties and major topographical features in the study area, from documentary evidence. \*-the tenements which lay in the principal excavations of 1974–84

and on Tenements 10–16 downstream (Figure 15). Further excavations around the edges of the Swan Lane site (site A) in 2006–9 recorded details of Tenements 1–4 and of Tenement 5.<sup>8</sup> Strata comprising Tenement 16, forming part of the Billingsgate lorry park development site but east of the part excavated, were removed by machine during the construction work of 1983; some archaeological records were made and many artefacts retrieved. Documentary study principally from 1975 to about 1985 researched all 16 tenements in the two blocks, so that for Tenements 7–8 above the bridge and 9 below the bridge, which were not excavated, the documentary history is presented here.

A column in Figure 15 shows how the tenements in the study lay in six medieval parishes, from All Hallows the Less in the west to St Botolph Billingsgate in the east. The eight tenements which are the focus of the present report lay in three parishes. The parish boundaries, which are a useful topographical framework for reconstruction of individual properties, are known by the time of the map of the post-Fire City by Ogilby and Morgan in 1676 (Figure 16). From west to east, the

parishes in the west, upstream half are All Hallows the Less (Tenements 1–2), St Lawrence Pountney (Tenements 3–5) and St Martin Orgar (Tenements 6–8). Immediately east of Tenement 8 lay medieval Fishmongers' Hall (in the medieval parish of St Michael Crooked Lane), beneath the present building of 1832–5. The medieval and later Hall is not studied in detail here, but noted incidentally and in its major periods of rebuilding as a notable building on the waterfront. Downstream of the line of the Roman and medieval bridges, the properties lay in the parishes of St Magnus the Martyr (Tenements 9–10) and St Botolph Billingsgate (Tenements 11–16). Figure 16 also shows the numbering of the tenements in the project, in their post-Fire context, and provides a key to the many waterfront alleys.

### 1.3 The circumstances of the excavations 1974–84

The term 'study sites' refers to the four principal excavations (sites A to D), from Swan Lane upstream of the bridges (Roman to modern) to Billingsgate downstream of them. The circumstances of the four excavations of 1974–84 are now described in their chronological order: New Fresh Wharf (site C), Seal House (site B), Swan Lane (site A) and the excavation

<sup>8</sup> Mackinder 2015.

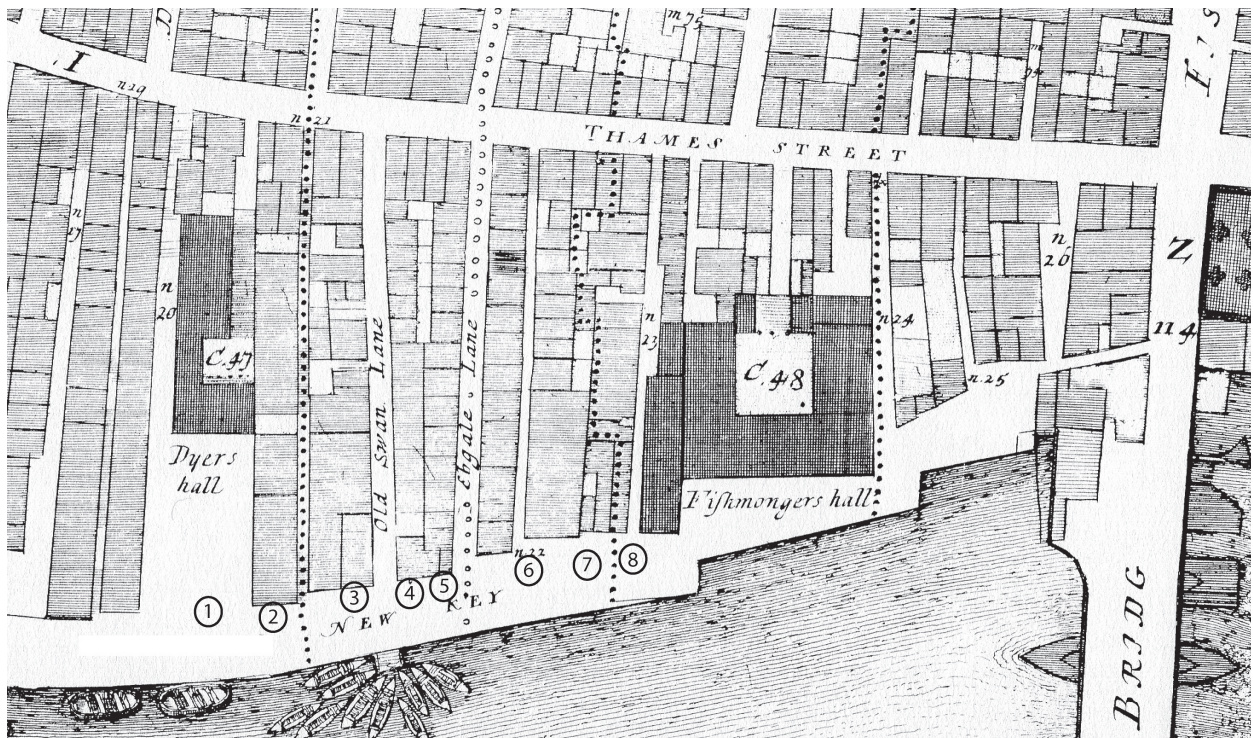


Figure 16 The bridgehead zone on Ogilby and Morgan's map of 1676 (LMA); the numbering of tenements in this study has been added

A, west of London Bridge;

Key:

Prominent buildings:

- C47 Dyers' Hall
- C48 Fishmongers' Hall
- C59 St Magnus the Martyr

Alleys:

- |                       |                       |                        |
|-----------------------|-----------------------|------------------------|
| n17 Campion Lane      | n23 Wheatsheaf Alley  | n28 Grant's Quay       |
| n19 Angel Alley       | n24 Red Cross Alley   | n29 Cox's quay         |
| n20 White Cock Alley  | n25 Church Yard Alley | n30 Hammond's Quay     |
| n21 George alley      | n26 Gully Hole        | n31 Lyon's quay        |
| n22 Black Raven Alley | n27 FreshWharf        | n32 Great Somer's Quay |

and salvage work during construction at Billingsgate Lorry Park (site D). Sites A, B and the first part of site C were excavated by the Guildhall Museum, which merged with the London Museum to form the new Museum of London in 1975; thus the excavations of the watching brief on site C and the major excavation on site D were by the Museum of London, where the archive for all four sites is now housed.

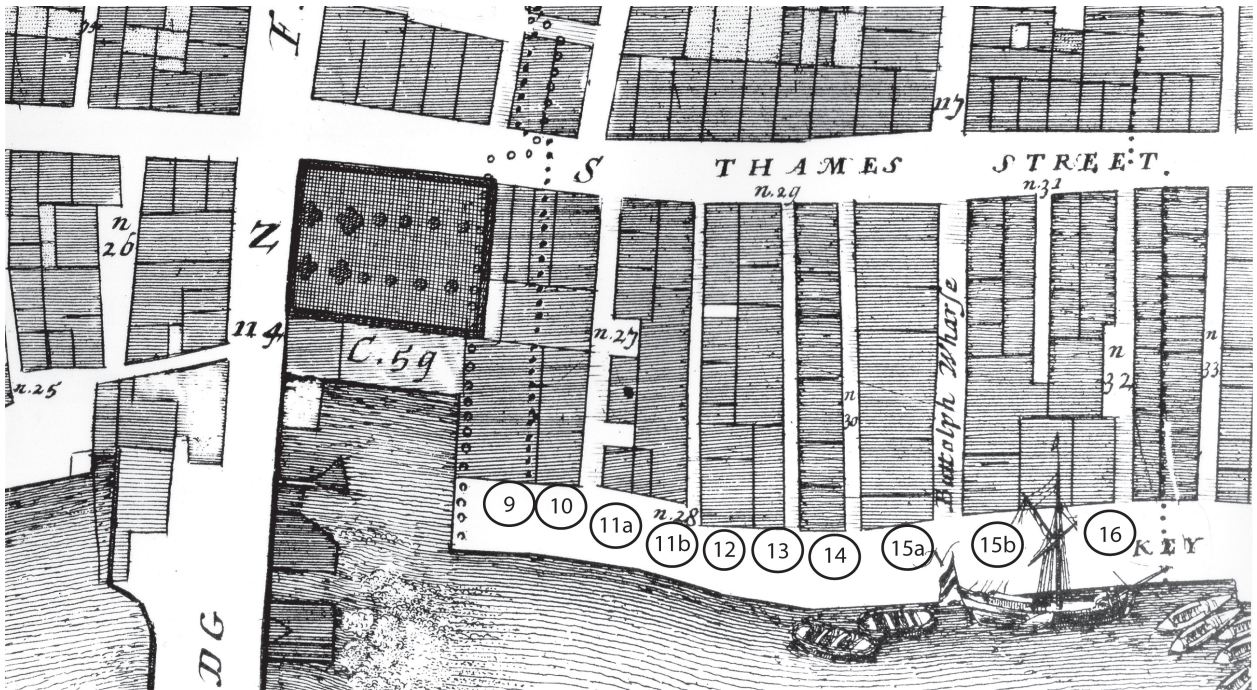
The excavation at New Fresh Wharf (site C) in Lower Thames Street took place in 1974, about 50m east of the Wren church of St Magnus the Martyr, which marked the north end of the medieval and post-medieval London Bridge until its replacement in 1832. Two adjacent areas, Areas I and II, were excavated in the yard of the New Fresh Wharf complex of 1957 (basements had removed strata between the yard and the present river) (MoL sitecode NFW74; Figure 17). Area I to the east uncovered medieval and post-medieval buildings, and Area II was machine-excavated down to the Saxon embankments, which were then excavated. The Roman waterfront was found, as it had been at Custom House, 270m to the east,

in the previous year.<sup>9</sup> Though the Roman period is not the focus of reporting here, the waterfront is shown in the sections of strata of the whole site given below, Figure 287 and Figure 288. In 1975, after the demolition of the New Fresh Wharf building and older buildings against Lower Thames Street in the northwest corner of the site, thus giving greater access, a narrow trench 18m long by 3m wide was cut by machine to the west of the former excavation, specifically to pick up the Roman waterfront. This was called the St Magnus trench or excavation (SM75) in records, but later called Area III as it was analysed with the other parts of the New Fresh Wharf excavation. In 1978, a watching brief on the whole site (Fresh Wharf, FRE78) recorded details to the north (Area IV) and to the south, up to the north side of the 20th-century New Fresh Wharf building which lay between the excavated area and the present river (Area V).<sup>10</sup> Some details, including timbers of

<sup>9</sup> Tatton-Brown 1974.

<sup>10</sup> In the archive report for New Fresh Wharf (Miller 1980) and in the previous publication of the embankments and buildings of the 12th





B, east of London Bridge (scale 100ft = 1 inch). The lines of black dots are parish boundaries (compare Figure 15); the lines of open circles ward boundaries

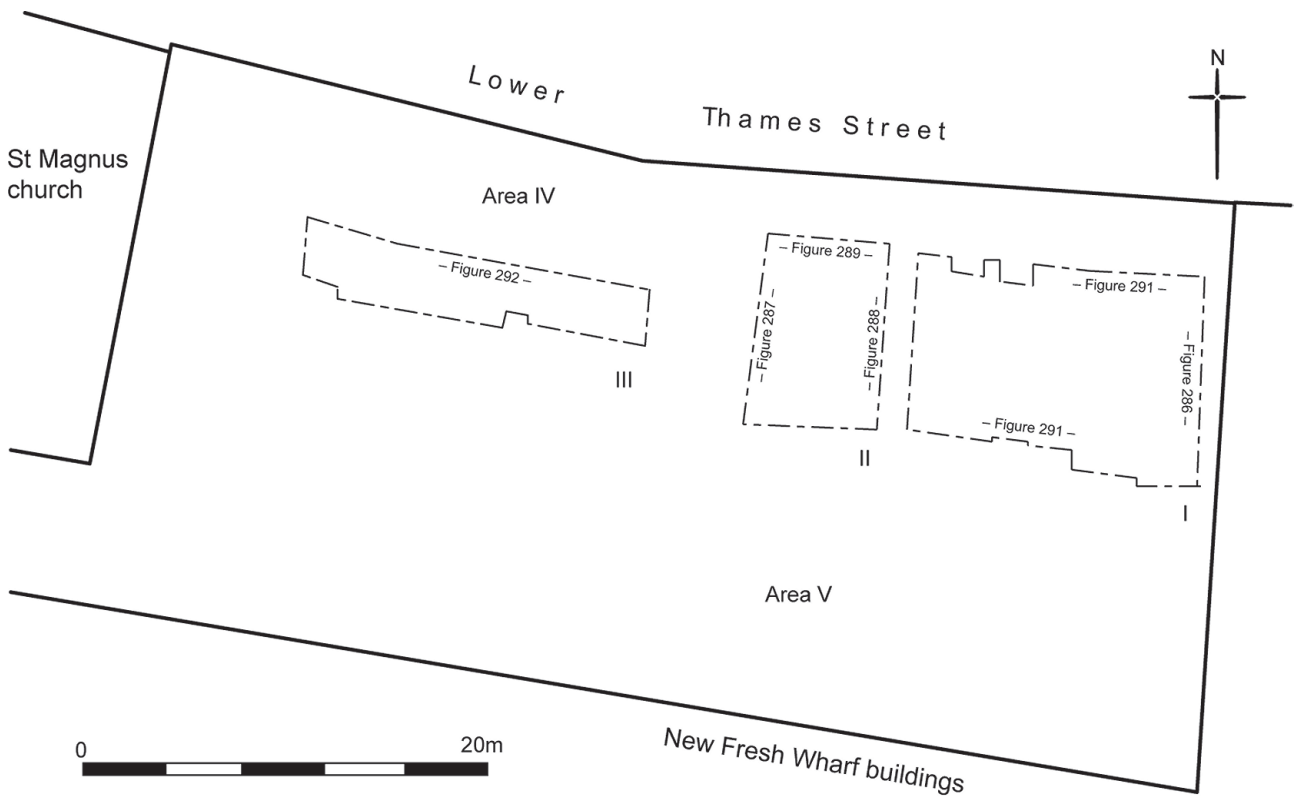


Figure 17 Site C: areas of excavation (Areas I to III) and areas watched during building work (Areas IV and V) and lines of sections



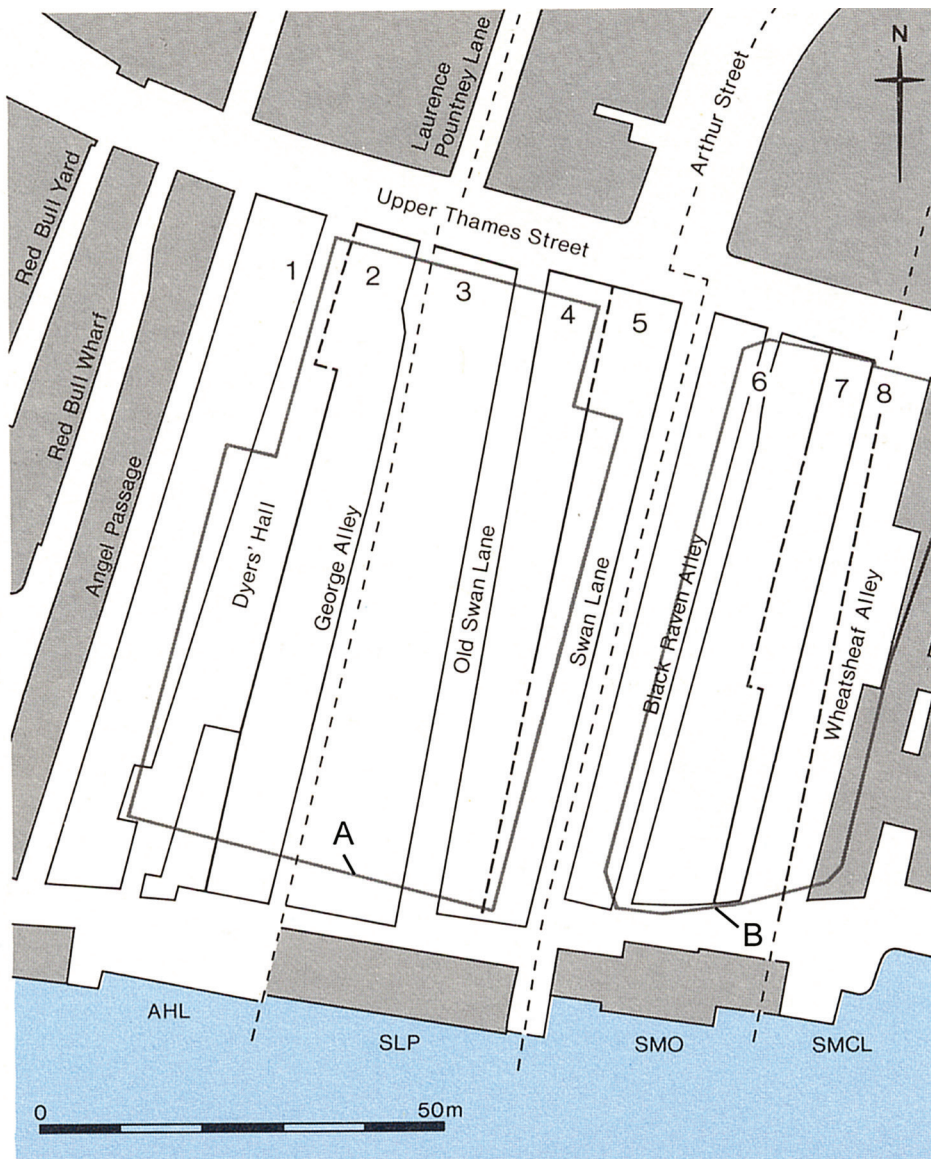


Figure 18 General plan of medieval tenements 1-8, with the outlines of the Swan Lane (A) and Seal House (B) excavation sites (based on Steedman *et al.* 1992, fig 53). The medieval property boundaries are approximate, and do not include minor variations. The medieval parishes are indicated with their boundaries as dashed lines: AHL=All Hallows the Less, SLP=St Laurence Pountney, SMO=St Martin Orgar, SMCL=St Michael Crooked Lane. The streets and lanes are as in the early 20th century

medieval waterfronts, remain beneath the present building of 1978-81.

Next to London Bridge, two excavations took place on properties west of Fishmongers' Hall. The first was Seal House (site B) in 1974, the second Swan Lane (site A) in 1981 (shown in their setting of medieval properties south of Thames Street in Figure 18). Excavation at Seal House, Upper Thames Street (site B, SH74), took place in 1974, with a watching brief during construction of the present building (offices originally forming an extension to the adjacent Fishmongers' Hall) in 1976 (Figure 19). The property made available in the advance of redevelopment by the Fishmongers' Company, nos 105-106 Upper Thames Street, comprised a concrete-

century (Steedman *et al.* 1992) a system of naming the excavated buildings with letters A onwards was adopted. This has been changed to numbers to fit with the narrative of the other sites. The correspondence between the two systems is given below in Table 94.

floored open basement (the result of destruction in World War II) immediately to the west of the standing and still occupied building called Seal House (a late 19th-century building at no. 108 Upper Thames Street). It should be noted that in all cases except the very few where otherwise stated, the name 'Seal House' in the present report refers to the open basement on the west side of the standing building called Seal House. This was bordered on the west by Black Raven Alley; in 1974 the narrow strip between the Alley and Swan Lane (no. 104 Upper Thames Street until its destruction in the War) was occupied by a few derelict buildings. The Museum hoped to investigate medieval buildings along the line of Black Raven Alley, which ran north-south approximately 1m from the west edge of the trench. Excavation was limited to a trench 26m north-south by 3m wide, with an additional trench 1m wide for a further 14m northwards from the northwest corner of the main trench (the width being governed by the

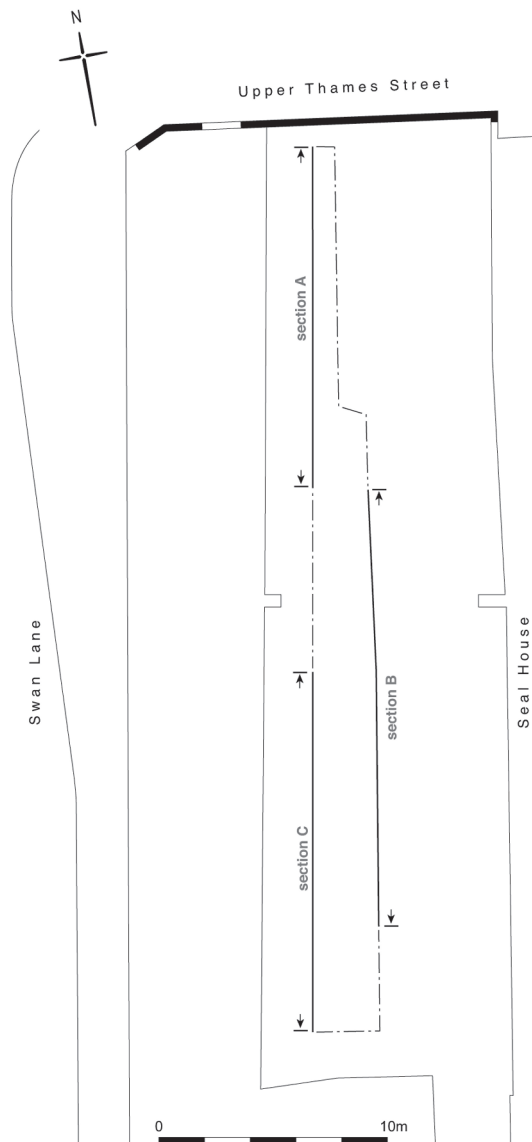


Figure 19 Site B (Seal House): trench outline and section lines: west side, northern half (Section A, Figure 282); west side, southern half (Section C, Figure 283); east side (Section B, Figure 284) (1:300)

reported slight foundations of the adjacent building) to locate the 2nd-century Roman waterfront, which had previously been uncovered at New Fresh Wharf, about 160m to the east, in a comparable position just south of Lower Thames Street.<sup>11</sup> The trench at Seal House (shown in the early stages of excavation, Figure 20) produced an uninterrupted north-south section 40m long on its west side.<sup>12</sup>

<sup>11</sup> Miller *et al.* 1986; Brigham 1990, 107–11.

<sup>12</sup> Initial post-excavation work on the Seal House site in 1975 produced a set of drawings designed for publication but not published at the time. The waterfronts were given Roman numerals (Waterfronts I–III) and the buildings were given letters (Buildings A to Q). These naming conventions have changed for the present publication: the waterfronts have Arabic numerals, and so do the buildings (B:Waterfront 1; B:Building 1). The sections drawn for publication in



Figure 20 Site B (Seal House) during excavation in 1974, looking north

Seal House showed the considerable potential of sites south of Upper Thames Street, and excavation of a north-south trench in the basement of an existing multistorey car park across Swan Lane immediately to the west (95–103 Upper Thames Street, site A, ‘Swan Lane’, SWA81) in 1981, in the shallow basement of a functioning multi-storey car park of 1961, was designed to pick up a similar sequence of revetments if possible (Figure 21). The position of a trench 39m long and mostly 3m wide was a direct consequence of the excavation and experience of Seal House, about 20m to the east, seven years before. It was designed to investigate the Roman and later waterfronts as near as safely to the north end of the car park building, which remained in use. After this excavation, a 7-month watching brief on the 4000 sq m site of the former car park took place during the early stages of redevelopment, in difficult and constrained conditions. In 2006–9, after demolition of the 1982 building, excavation again took place around the periphery of that building, where strata from the Roman period onwards had survived, as part

1975–7 showing the strata on both sides of the trench are reproduced here, with their lettered buildings, as Figure 282 to Figure 284. The correspondence between the numbering of Seal House buildings in this report and the original lettered series is given in Table 93 below, to aid interrogation of the original records.





Figure 21 Site A (Swan Lane): the standing multi-storey car park (second building from the right) from the southeast, photographed in 1981 as excavation began inside it. The offices built by then on the site of the adjacent 1974 excavation at site B (Seal House) can be seen on the extreme right. Beyond the Swan Lane car park (demolished 1982) is Mondial House of 1969–76, built to be the largest telephone exchange in Europe but quickly outdated and demolished in 2005. The Guildhall Museum was not able to record there in 1970 for lack of resources. The small amount of remaining strata was excavated in 2005–7 (Fowler and Mackinder 2014). Behind to the north, the visible blocks of the 1960s have also been replaced since 1981

of the construction of a new building called Riverbank House.<sup>13</sup>

The fourth and largest site in this study is that of Billingsgate Lorry Park, also called Billingsgate for short, which lay east of London Bridge between the New Fresh Wharf site and the Billingsgate Fishmarket building of 1875 (which closed in 1981). The intended redevelopment of both the 1875 building and the land to the west, a lorry park made over the sites of several 19th-century warehouses destroyed in World War II, was known in the late 1970s.<sup>14</sup> This larger scheme was stopped by the Listing of the Fishmarket building by government minister Michael Heseltine in 1981. Development was then intended for the lorry park only. The case for excavation had been prepared in 1980, and an 11-month excavation began in March 1982. From recent excavations to west and east it was known

that the lorry park was an area of potential from the Roman period onwards, about 45m east–west by 55m north–south and up to 8m deep. In 1982, there was no feeling by national or local authorities, as there would be after 1990, that such deposits demanded special care, attention or preservation. The Museum placed a large area of excavation in the northwest corner of the lorry park, where it would investigate the Roman and Saxon waterfronts and medieval buildings of Botolph Wharf above, including part of the parish church of St Botolph Billingsgate, destroyed in the Great Fire of 1666 and not rebuilt. This trench, which required the inserting of a rectangular cofferdam before excavation to enable removal of up to 6m of deposits, comprised about one quarter of the area of the lorry park, and measured 19.53m east–west by 23.95m north–south (Figure 22; Figure 23; BIG82). After the excavation, access was allowed to the site during machine-clearance of the larger remainder of the site, and recording took place under constrained conditions in 1983 and early 1984 (the Billingsgate watching brief, BWB83; Figure 24).<sup>15</sup>

<sup>13</sup> Mackinder 2015; for a plan of the 2006–9 trenches, the excavation trench of 1982 (part of site A) and the nearby site B (Seal House) trench, see fig 3 there.

<sup>14</sup> Here we acknowledge first diplomatic efforts by Museum colleagues Max Hebditch and Hugh Chapman in the 1970s.

<sup>15</sup> The excavation is the subject of a BBC TV Chronicle production, broadcast in 1984. The Museum is grateful to the BBC colleagues





Figure 22 Site D (Billingsgate): the site after initial cleaning in 1982, showing the outline of pre-Fire buildings largely covered with debris of the Great Fire. These deposits were directly beneath the 19th-century buildings, the cellar walls of which, surrounding the excavation, were used to retain the upper 3m of strata. The cofferdam was designed for the archaeological project

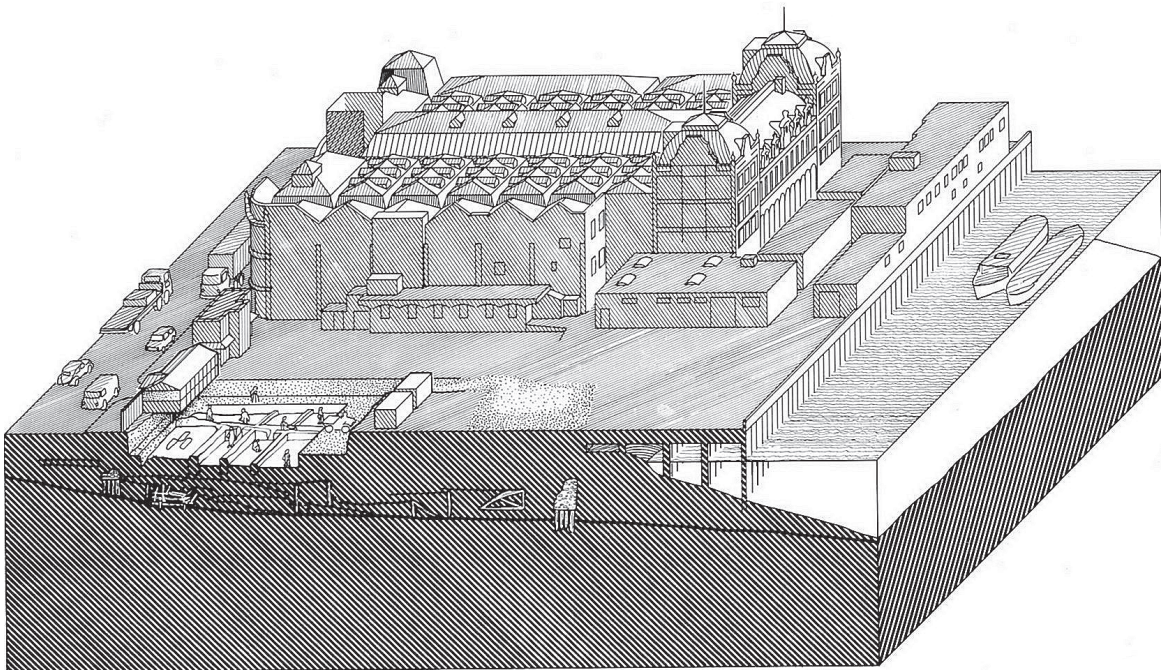


Figure 23 Sketch produced in 1982 to illustrate the position of the Billingsgate excavation (site D) within the Billingsgate Lorry Park and its relation to the expected sequence of Roman, Saxon and medieval waterfront reclamation beneath (based on excavations elsewhere in Thames Street in the years 1974–81). In the background, the Billingsgate Fishmarket building of 1875 which lies on the site of the medieval and post-Fire Billingsgate dock. The Billingsgate watching brief comprised pressurised monitoring of the removal of the other three quarters of the lorry park site by earth-moving machines





Figure 24 Destruction of the strata east and south of the site D (Billingsgate) excavation during redevelopment, 1983. This view looks southeast; at the rear is the 1875 Billingsgate Fishmarket building (compare Figure 23)

Many lorry-loads of spoil were taken to landfill sites east of London, where a large number of finds was recovered.<sup>16</sup>

This partial publication is a result of the sporadic work on the project since the 1970s and the fact that excavation on all the component sites, to varying extents, preceded the availability of computers in archaeological work in London. Nowadays, for instance in the even larger Spitalfields project of 1991–2007 published in 2015,<sup>17</sup> immense datasets can be manipulated and understood, and published in a reasonable time, because the excavations and their material were completely computerised from the start. In contrast, the first three excavations in the present study, sites A to C of 1974 to 1981, were excavated before the archaeologists of the Museum had a computer at all.

#### 1.4. The pottery and artefacts from the study sites

The main waterfront dumps and foreshores from the study sites and from other waterfront sites (ie south of Thames Street) excavated or observed in the period 1960–74 are summarised in Table 4. These rich deposits

who made this programme, since (in the absence of legislation which followed in 1990) it was a private screening at the BBC of the 'unfinished' programme in 1983 to the developers which ensured archaeological access to the earth-moving to retrieve finds. The programme ended on this 'encouraging' note. The programme is now on line: <https://www.youtube.com/watch?v=F4TJfGudEus>.

<sup>16</sup> For a basic account of the BWB83 watching brief, Egan and Pritchard 1991, 6–8. One landfill site, where the angel corbel reported here was recovered by Guy de la Bedoyère, is now covered by the large shopping centre at Thurrock. It probably contains other finds from the Billingsgate site.

<sup>17</sup> Harward *et al.* 2015.

provide a detailed and chronologically ordered array of London's material culture in artefacts from the middle of the 12th century to the opening of the 16th century. This is an evolving study. So far from the present project sites A and B can contribute several large stratigraphic groups of ceramic and non-ceramic objects, principally the dumps behind and in front of waterfront walls or revetments. There are no large groups from site C, and so far only one group from site D has been studied for its ceramics only. But this table shows how the waterfront excavations since 1960 are providing accurately-dated groups of artefacts to illustrate the material history of the City of London and its surroundings. The table deals only with major groups recorded up to 1982, and can no doubt be supplemented and extended by further groups excavated since those studied in this project; that we leave to others.

For this study, the pottery specialists have listed notable sherds which either have made a contribution to previously published ceramic corpora from London, or which should have the same status and will hopefully be published in the future; these are called <P> profiles and numbered within each site: thus A<P1> from Swan Lane, site A. The current listing of the notable medieval and post-medieval sherds is given in Table 64 (site A), Table 65 (site B) and (Table 81) (site C). A detailed account of the study of pottery for this volume, and discussion of overall results, is given in section 6.6. As in other pottery studies, two terms are used here to describe different calculations as to the likely number of complete pots in a context: ENV - Estimated Number of Vessels, EVE - Estimated Vessel Equivalent. The first of these is a minimum vessel count based on the

Date from ceramics and dendrochronology	Deposit	References for other sites
12th century (mostly first half)	Public Cleansing Depot 1960, medieval foreshore	Vince 1985, 86
1140–60	B: groups behind Waterfront 1	
1140–80, 1170–1180/1200	A: Group 24 and Group 26	
1170–1200	A: Group 42	
1180–93	B: groups behind Waterfront 2	
1203–15	B: groups behind Waterfront 3	
c. 1235	D: groups behind Waterfront 14	
1270–1300	B: groups behind presumed Waterfront 4	
1270–1350, probably early 14th c	A: Group 61	
1290–1350	A: Group 74	
early 14th c	Custom House Group C2	Tatton-Brown 1975; Vince 1985
1325–32	D: period 12.1 refurbishment of Botolph Wharf	
c. 1340	Trig Lane Group 7	Milne and Milne 1982, 21–4; Vince 1985; Milne 1992, 70–1
1350–1400	A: Group 85	
c. 1380	Trig Lane Group 11	Milne and Milne 1982, 29–35; Vince 1985, 86; Milne 1992, 74–5
c. 1440	Trig Lane Group 15	Milne and Milne 1982, 38–42; Vince 1985, 86
1450–1500	A: Group 100	
1450–1500	A: Group 102	
1450–1500	A: Group 103	

Table 4 Summary of main reclamation dumps and foreshores with finds from the study sites, as dated by the pottery in them and dendrochronology when available, with major groups of pottery and artefacts from other previous London waterfront excavations

Volume	Swan Lane	Seal House	New Fresh Wharf (all sitecodes)	Billingsgate Lorry Park excavation (BIG82)	Billingsgate Lorry Park earth moving (BWB83)	Totals
<i>Knives and scabbards</i> (1987)	76	24	0	21	130	251
<i>Shoes and pattens</i> (1988)	14	16	0	0	0	30
<i>Dress accessories</i> (1992)	503	2	1	104	696	1306
<i>Textiles and clothing</i> (1992)	10	2	2	8	5	27
<i>Medieval horse</i> (1995)	81	11	0	16	98	206
<i>Medieval household</i> (1998)	218	23	2	59	370	672
<i>Pilgrim souvenirs</i> (1998)	63	0	0	7	119	189
Totals	965	78	5	215	1418	2711

Table 5 Numbers of medieval small finds from the study sites published in the seven volumes of the Medieval finds series, 1987–98

Authors of the catalogues:

*Knives and scabbards*: Cowgill *et al.* 1987

*Shoes and pattens*: Grew and de Neergaard 1988

*Dress accessories*: Egan and Pritchard 1991

*Textiles and clothing*: Crowfoot *et al.* 1992

*Medieval horse*: Clark 1995

*Medieval household*: Egan 1998

*Pilgrim souvenirs*: Spencer 1998

number of sherds demonstrably from the same vessel; the second is based on the proportion of rim present for each recognisable vessel.

A special note is required about the pottery analysis for the largest site, Billingsgate (site D). Funds have

not yet been obtained for the desired full pottery analysis; the required sum is very large. The phases of the detailed Billingsgate sequence are dated by coins, dendrochronology and documentary references where appropriate. Pottery evidence is included when sherds from that phase have been studied in research on specific wares during the last four decades: on late medieval Hertfordshire glazed ware, London-type ware, Kingston-type ware, south Hertfordshire-type greyware and shelly-sandy ware.<sup>18</sup> This may be rectified in the future.

<sup>18</sup> Jenner and Vince 1983 (LMHG); Pearce *et al.* 1985 (LOND); Pearce and Vince 1988 (KING); Blackmore and Pearce 2010 (SHER, SWG). The study of Mill Green ware by Pearce *et al.* 1982 appeared while the Billingsgate site was being excavated, so contains no material from that site.



Since the beginning of concerted archaeological excavations of the London waterfront in 1972, the immense number of the recovered artefacts has inhibited their detailed publication. One solution was to publish the structures on the site with very little associated study of the artefacts; that would come later. And it largely did: the thousands of artefacts available for study in the 1980s and 1990s were assessed and catalogues of selected groups of artefacts (knives and scabbards; shoes; dress accessories) produced: a series of seven volumes called *Medieval finds from excavations in London*, which appeared between 1987 and 1998. Others were discussed but never came together. These catalogues were of excavated material dating from about 1150 to about 1450; they included items from excavations all over the City of London, but the great majority were from waterfront excavations. A similar solution, after many excavations in a multiperiod British city, has been adopted at York, where a single volume study of 6000 medieval artefacts, from four major excavations of the 1970s and 1980s, was published in 2002.<sup>19</sup>

The contribution of the study sites to the *Medieval finds* volumes is summarised in Table 5. The numbers in this table are only the selected, catalogued items; there were also other fragments or other examples not catalogued. From the four sites a total of 2711 objects have been studied and published. It is notable that just under 53% of them came from the watching brief, carried out under extremely arduous conditions, at Billingsgate in 1983–4.

A selection from this group of already published medieval artefacts illustrates the narrative (listed as <S1> to <S135>),<sup>20</sup> and we point out occasions when the location and character of artefacts is significant in the history of the individual sites. The medieval and post-medieval floor tiles and wall tiles from the sites have figured in publications in the decades since the excavations; notably in two corpora of tiles from the whole London region. A pavement of ‘Westminster’ floor tiles (so called because they were first recognised in the muniment room at Westminster Abbey) found in a building on the Seal House site (below, Gp B74, section 4.3), which is so far a unique occurrence in a secular London medieval building, was published as part of a catalogue of these tiles in 2002; and tin-glazed wall tiles from the sites were included in a corpus published in 2010.<sup>21</sup> Apart from floor- and wall-tiles, a small number of the objects from these sites which might date from after 1500 have so far been studied; there are two detailed analyses of rich groups of objects from a drain

of the 1630s on site D, published in 2009,<sup>22</sup> and from a drain on site C, also of the 1630s, published in 2014.<sup>23</sup>

Environmental evidence, including the study of animal bones, seeds and micro-organisms, does not figure here. This is a source of regret. Hopefully such a study can start in the future, certainly for the animal bones.

### 1.5 Organisation of this report, conventions, abbreviations and codes

The project as a whole, covered by this and an intended future report, has periods which are listed in Table 6. These are arbitrary and porous divisions to aid presentation and discussion of a large amount of detailed and sometimes complicated evidence. Apart from the Great Fire of London of 1666, which marks the end of period P1, there were no major events in the history of the site, which is principally one of reclamation and continuous building from the 12th century to the 18th century (and beyond). One advantage of this dating scheme (periods M1–M3 and P1–P3) is that similar schemes are used by other archaeological reports on sites in London and its environs, both published and in progress, and thus development of the medieval and post-medieval City of London and its region can be studied at the wider level.

period M1	1100 to 1220
period M2	1220 to 1350
period M3	1350 to 1500
period P1	1500 to 1666
period P2	1666 to about 1750
period P3	about 1750 to about 1900

Table 6 Overall periods for this project, including those to be used in the future report on the periods after 1666 (Schofield in prep)

The excavation narratives for the four component sites are based on archive reports written by the supervisors of the original excavations in 1974–82; they vary in method as the writing of such reports was evolving through those years. Links are maintained in this text with the original numbering of periods and phases in the archive reports, which are held at the Museum of London Archaeological Archive (formerly LAARC). Thus a little explanation about the archive writing systems is necessary here. The sites are lettered A–D. The division of strata into periods within each site, established in the archive report, is retained, and reported in the form ‘period A1’. The Swan Lane (site A) reporting is based on an archive report which was about the post-Roman strata only,<sup>24</sup> and it begins with period 1 (here,

<sup>19</sup> Ottaway and Rogers 2002.

<sup>20</sup> A small number of these selected artefacts are not illustrated here but are in their previous publications.

<sup>21</sup> Betts 2002; Betts and Weinstein 2010.

<sup>22</sup> Schofield and Pearce 2009.

<sup>23</sup> Schofield and Pearce 2014.

<sup>24</sup> Shepherd 1991.

period A1). The Seal House (site B) reporting is based on an archive report which started with remains of the Roman period,<sup>25</sup> so the reporting starts with period 3 (here, period B3) in that archive report. Each period comprises stratigraphic groups (though the approach and numbering system is different, reflecting a change in methodology in the 1980s): a stratigraphic group is a group of contexts which are interpreted together, reflecting an action in the past (the building of a wall or waterfront revetment). In the present text, all group numbers are prefixed by their site letter, for example A52.2 (for site A) or B73 (for site B). The major reclamation units, with their many finds, are also called 'Group A74' or 'Gp 74'. Individual contexts are always placed in square brackets, as 'B[331] from B50'.

Because New Fresh Wharf (site C) was excavated in three phases over the years 1974–8, it has three Museum of London excavation site codes (NFW74, SM75 and FRE78). As all three sequences of context numbers start at 1, there are three similar numbering sets. Rationalisation of these into one sequence would cause unnecessary confusion in consulting the archive of site records and finds. The following arrangement is therefore employed. The letters of the site code, in lower-case, precede the context number where it is

mentioned: so nfw[208], sm[101], fre[578]. All of these are within site C.

This is a study of the river and land alongside it, so there are occasional references to heights above sea level. These are heights above the present Ordnance Datum, and are abbreviated OD.

For each stratigraphic group producing pottery and artefacts, there are usually two tables. The first is a dating table, which summarises pottery, coins (medieval and post-medieval only; residual Roman coins are not listed) and dendrochronology. This is called simply a Table. The dating tables start at Table 95. The second is a table of artefacts (small finds) from that group which have been published in the *Medieval finds* catalogue series. These tables are called Artefact Tables (1–38). All but one of the *Medieval finds* catalogues used a common system of numbering the objects in the catalogue, which is cited here against each object so that its publication can be followed. The identity of an individual accessioned non-ceramic artefact (a shoe, fish-hook, or brooch) is given in the form B<265>, which is an accessioned find, a padlock, from site B. The context in which this artefact was found is given in the relevant Artefact Table. The cataloguing employed

Numbering	Meaning	Explanation
period A1	period 1 at site A (Swan Lane)	a period of construction or deposition of strata, human or natural (e.g. foreshores)
A74, A52.2, also called 'Group A74' or 'Gp 74'	stratigraphic group of contexts from site A (Swan Lane); sometimes further subdivided in the archive report	a contiguous group of layers or other features from a specific part of the site; the finds from such a group are usually considered together for their date or significance
B[331]	individual context [331] from site B (Seal House)	individual context numbers are given in this publication only when there is further information reported here, e.g. pottery or finds, or something specific to note
A<P1>	a series of selected pottery profiles from site A (Swan Lane)	these profiles (in four series, one for each site) will form the basis of a future study
B<265>	accessioned non-ceramic artefact from site B (Seal House)	the Museum system of accessioning finds, still used; artefacts are numbered in an individual series for each excavation (note these are the original accession numbers, under which the artefacts are stored, not the numbers they received when incorporated into published catalogues)
<S1>	selected artefacts from sites A and B illustrated here	a selection of non-ceramic artefacts largely from the published <i>Medieval finds from excavation in London</i> catalogue series (1987–98); the purpose is to provide a sample of the variety of artefacts behind the studied waterfront reclamation dumps of 1100–1450
Abbreviations in tables	COIN=coins recovered (R=Roman, M=medieval); DEND=dendrochronological samples; MCBM=medieval ceramic building material; MPOT=medieval pottery; PIPE=clay tobacco pipe; ROM=Roman; PPOT=post-medieval pottery	

Table 7 Numbering conventions used in this publication, and abbreviations for types of archaeological evidence used in the dating Tables

<sup>25</sup> Schofield 2016, revised edition replacing first draft of 1975.

in one of the volumes, *Shoes and pattens* (Grew and de Neergaard 1988) was different: the examples are listed according to the number of the illustration in the book where they are found. Thus some of the published references to shoes will have sub-numbers, e.g. 112c. Otherwise shoes are not included in the detailed tables, as the system of reporting them was not the same. The 156 selected medieval artefacts which are illustrated, either by drawing or photography (just over 5% of those counted in Table 5), are numbered <S1> to <S156> and listed in Artefact Table 38. These numbers are added to the individual Artefact Tables in their place, so that the reader can find out which artefacts in each group have been illustrated here, and by looking at the Artefact Table, what other artefacts were found in the same context or those of the same phase. The majority of the illustrated artefacts are from the waterfront reclamation units and foreshores of the 12th to 15th century on sites A and B.

The numbering system just described is summarised in Table 7, to which is added a list of the abbreviations for different kinds of archaeological evidence as used in the dating tables.

In this text the ‘raw’ date provided by dendrochronology is given for each waterfront, but as there may have been an unknown amount of reuse of timbers from earlier structures on land or on the waterfront, and an unknown period of storage of the cut timber before it was used, a notional 10–20 years should be added to the date derived from dendrochronology to establish the date of construction.

Two tables in section 6.6 below explain the pottery terms used in the main text and in the tables. Table 59 lists the pottery wares, with their acronyms which are

used in the tables and occasionally in the text; Table 60 lists the main forms with their acronyms. The current (2018) form of these tables can be found at <http://www.mola.org.uk/medieval-and-post-medieval-pottery-codes>.

Sections of the strata and elevations of walls drawn during the excavations of sites B and C are given in part 8.1 of the text. These include features of other periods, for instance the Roman waterfront and walls of the period after 1666; thus these sections are of use for checking or researching further into the Roman and Saxon periods on these sites, which were reported in previous publications.<sup>26</sup> At present the archive system of labels for the buildings on these two sites is retained on the drawings (letters instead of numbers within each sitecode). Concordance tables between the two systems of labelling the buildings (letters used during the post-excavation work of 1974–2000, numbers used for this report after 2000) are given in Table 93 (site B) and Table 94 (site C).

The fact that the four project sites were written up in slightly different ways, within the evolving post-excavation system at the Department of Urban Archaeology of the Museum (active 1974–91, thereafter part of MoLAS), means that there are four period structures to consider. Table 8 shows the broad concordance between the periods on the sites for the years 1100 to 1666, and what the periods are called. This can aid the reader throughout the following text.

The documentary evidence has been studied, like the archaeological material, over a period of four decades. During that time the manuscript holdings of Guildhall Library (GL) in the City of London became part of London Metropolitan Archives (LMA), and almost all were reclassified (a few remain to be done). A small number of documentary references in the text

Overall period	Site A: Swan Lane	Site B: Seal House	Site C: New Fresh Wharf	Site D: Billingsgate Lorry Park
<b>M1: 1100 to 1200 [1220 on site A]</b>	A1 1150–about 1220 A2 1150–about 1220	B3 1100–1180 B4 1180–92	C3. to C3.4 1080–1200	D6–D7 1108–1200
<b>M2: 1200 [1220 on site A] to 1350</b>	A3 to A5 1220–1350	B5 to B7.2 1200–1350	C3.5 to C4.2 1200–1350	D8 to D12.7 1200–1350
<b>M3: 1350 to 1500</b>	A6 1350–1400 A7 1400–1500	B7.3 to B8.1 1350–1500	C4.3 to C4.5 1350–1500	D12.8 to D15.2 1350–1500
<b>P1: 1500 to 1666</b>	A8 c 1500	B8.2 to 8.4 1500–1666	C4.6 to C4.8 1500–1666	D15.3 to D16.7 1500–1666

Table 8 Concordance of periods between the four sites, within the four overall periods of the study

<sup>26</sup> For these bridgehead sites in the Roman period, Miller *et al.* 1986, Brigham 1990; for the Saxon period, Steedman *et al.* 1992.



below have not been revised with their current LMA references, but they can be found in LMA. In this text the word *tenement*, especially when cited as Tenement 1 or Tenement 2 etc, signifies a coherent medieval property, in all the studied cases stretching from Thames Street to the river; rather than meaning a building designed for multiple occupation, as generally used in analyses of 17th-century buildings in London and elsewhere. Some of the documentary research produced by this study, but not included in this volume, is to be found in the online archive for the project at [www.colat.org.uk/london-waterfront/](http://www.colat.org.uk/london-waterfront/).

### 1.6 Research questions and comparisons

The questions which might be asked of the great amount of archaeological material from these four sites have developed in the 44 years since 1974. The present monograph attempts to address the following research questions (or groups of questions) among others:

1. What are the main characteristics of this waterfront area in the medieval and Tudor periods, and what do they say about the port of London within its European trading network?
2. Where did the pottery and artefacts incorporated into reclamation units come from? Do the pottery and artefacts have any significance in their locations behind waterfront revetments or on foreshores, or are they all hopelessly mixed up because they were mixed up before they were brought here?
3. What do the hundreds of medieval and post-medieval artefacts, at least those now studied, tell us about specific aspects of culture, fashion and religious beliefs? What is the potential for further research into the pottery and non-ceramic artefacts?
4. What were the functions of the buildings and open areas? How did they change over time? To what extent is this illustrated by the pottery and artefacts? To what extent can each property and new development be linked to specific owners or occupiers, as specified in the documentary record? Can the study of buildings and the artefacts in them, when combined with detailed documentary evidence, suggest the functions of excavated buildings?
5. What material evidence is there for trade? Can this be related to documentary sources? Can the pottery demonstrate trade connections with specific countries? Does the pottery testify to changes in products/sources of supply over a long period of time?
6. What is the history of the industrial aspects of this area from the 12th century to 1666? Was the area south of Thames Street a medieval industrial suburb of the City?
7. What is the history of the parish church of St Botolph Billingsgate, and how did it function in this special waterfront location?
8. What are the biological characteristics of the group of human skeletons buried in St Botolph Billingsgate?
9. How do the general nature and development of the study sites compare to those of other contemporary domestic sites in London or elsewhere?

It is hoped that this report, on a group of waterfront sites around the north end of medieval London Bridge, will stand as a companion to other monographs which have studied the archaeology of an area of the medieval and later City of London. There have been several, but two stand out to be compared with the present series of findings in their property and building histories, their pottery and artefacts: the area around Guildhall excavated in 1985–99 and published in 2007; and excavations at Poultry and the east end of Cheapside excavated in 1987–96 and published in 2011.<sup>27</sup> With the present study as a third, these are type sites for understanding the development of the City of London and the lives of its inhabitants through five and a half centuries, from 1100 to 1666, as explained by archaeological and documentary study.

These questions are considered again at the end of the report in Chapter 6. There are no doubt other archaeological and historical questions which can now be put to this material, but those we leave to the reader.

<sup>27</sup> Bowsher *et al.* 2007; Burch *et al.* 2011.