In the spring of 1999, the Museum of London Archaeology Service excavated the site of Northgate House (MRG95), Moorgate, and Kent House (KHS98), the adjacent site to the south, in the City of London (Fig. 1). The work was commissioned by MEPC on behalf of their client Cazenove. The excavation of Northgate House took place in the basement of the standing building. The basement had removed most of the post-Roman deposits and the building’s foundations had removed large areas down to natural deposits. The archaeological excavation took place in a series of trenches and some larger areas between the existing foundations.

The Kent House excavation was more limited and comprised excavation of four pile positions and monitoring of other groundworks. In the event only two pile positions contained any archaeological deposits (shown on Fig. 1). Copthall Close, between the two buildings, was excavated during the early summer of 2000 to the formation level required by the new building.

The Roman sequence, which is dominated by pottery production, will be published in a separate monograph. A series of features dating to the early medieval period (1050-1150) were recorded at Northgate House and form the basis for this article. Fragmentary evidence for later periods did occur and records of it will be available for consultation in the London Archaeological Archive and Resource Centre.

The site lies on the western edge of the Walbrook, the stream which divided the city into two, Ludgate Hill to the west and Cornhill to the east. Documentary evidence and previous
archaeological work in the vicinity suggests that the area of the site was open ground and gardens through most of the medieval period, presumably because of the periodic flooding of the Walbrook, or the marshy nature of the area when the Walbrook was infilled. Buildings would have been confined to the west, fronting onto Coleman Street, and to the south onto Lothbury. The property to the south of (Great) Swan Alley, which covers at least part of the Northgate House site, is recorded as belonging to Rewley Abbey, a Cistercian house in Oxford founded in 1281. There are documentary references at this time to the Walbrook stream, mainly detailing the increasing pollution. In 1288 it had to be ‘made free from dung and other nuisances’ and in 1383 it was ‘stopped up by divers filth and dung thrown in by persons who have houses along the said course’.

When St. Margaret Lothbury was rebuilt in 1440, the Lord Mayor Robert Large paid for the lower Walbrook to be covered over. By the time of the first map of the area, the Agas map of c 1562 (Fig. 2), the whole Walbrook within the City wall was below ground although the map shows the site still broadly undeveloped and occupied by gardens.

A large north-south running ditch, dating from the Norman period, was recorded during the excavation on Northgate House. Only the west side of the ditch was within the limits of excavation. A 12 metre length of the ditch was recorded; it was at least 5 metres wide. The ditch follows the line of an earlier Walbrook channel and may represent re-digging of the channel in the early medieval period, perhaps to clear it of some of the problems described above (Fig. 3).

The area to the west of the ditch appears to have been used either for industrial activities or as a dumping ground for industrial waste both in pits and on open ground (Fig. 4).

The ceramic dating of the pits and ditch places them in the late Saxon or early Norman period, generally 1050-1150. The pottery consists of 527 sherds from up to 349 vessels; fabrics include handmade pottery (i.e. local greywares), wheel-thrown glazed (i.e. coarse London-type and

![Fig. 2: the Agas map of c 1562](image-url)
London-type ware) and imported wares (i.e. red-painted wares). Only one group appears to represent pottery dumped in one action, and was found backfilling the north-south ditch. This group is characterised by sherds from a London-type ware rounded jug with applied early-style decoration, and bases from shell- and sand-tempered (EMSS and EMSH) cooking pots. Most of the other groups were small-sized (contexts often yielding fewer than five sherds) and usually found in the pits or external dumps that characterise the land-use of this period. The condition of the assemblage is poor with little in the way of diagnostic features. The pottery is often of small size, and appears to have been discarded incidentally. It may represent occasional rubbish disposal within reworked or re-deposited soil, perhaps from the clearance of backyard middens. In addition, the medieval pottery assemblages were often found with (sometimes greater) quantities of Roman material. Some indications survive on the site for metalworking, particularly medieval copper-alloy foundries. A cluster of features in the centre of the site produced re-deposited waste rather than evidence in situ for the activity taking place on site. Two of the features resembled flues, suggesting that the main focus of activity was not far away, perhaps in the large truncated areas in the centre of the site.

The Northgate House site produced a total of over 10 kg of industrial material, while Kent House was somewhat less prolific. As only four pile holes were excavated at Kent House, this is unsurprising. Refractory waste material includes the familiar lumps of slag and occasionally furnace lining, sometimes with slag and metal adhering, but the bulk of the pertinent material is the very fine, friable (?dung-tempered) fabric that is known elsewhere in the city used for moulds in late medieval copper-alloy casting. There is apparently no similarly early assemblage for comparison, in London at least. The bulk of the ‘mould’ material from the present sites, from pits assignable to the Norman period, only exceptionally has what might be considered even a hint of an actual casting surface, the greater part of it being much more bulky than the later bell- or vessel-mould fragments known elsewhere. The present pieces look more than anything else like structural components, tile-like slabs and bricks, which could have formed part of the furnace plant in a foundry. There are also a few crucibles with residues.

As is often the case, the items most definitive of specific products, mould fragments with surviving details and discarded wasters, are the most elusive. Among the kilos of the ‘mould-fabric’ material from both sites, a couple of fragments with a tight curvature from Northgate House may be from moulds for the production of vessels or bells, though they lack the familiar and definitive off-white casting. They could perhaps be curved parts of a furnace structure instead. These aside, there is nothing else recognised as product-specific among the Norman-period finds from either site. The Kent House site produced six fragments of (?a single) mould for what looks like an angled (i.e. gothic-style) vessel from the later medieval deposits.

One metal discard also found with the later Kent House copper-alloy founding assemblage, is clearly industrial waste consisting of three strap loops of late 14th-century form, still joined from the mould (Fig. 5). Dress accessories would, however, be products of a separate branch of copper-alloy casters, as defined by guild demarcation from the 14th century onwards. The Girdlers made dress accessories and the Founders were responsible for vessels and bells. In the absence of any of the characteristic mould forms used elsewhere for similar small-scale accessories, made of the same fabric as those for vessels/bells, it may be questioned whether this single item is related at all to the other, re-
deposited metal-working material in the later contexts alongside which it was found.

A series of pits were recorded, some of them being timber-lined. The pits were all in the western half of the site, well away from the ditch to the east. The timber lining suggests they were designed for a particular purpose but were later used for rubbish and waste disposal. The timbers themselves had largely decayed and survived as staining for the main part. Two of the pits contained leather waste and may have functioned as tanning pits. The pits were a variety of sizes, some being up to 2.30 m by 1.20 m, others were 1.60 m square. It was not possible to obtain full dimensions of many of the pits as they lay only partly within the limits of excavation.

A notable individual leather find is a one-piece ankle-high turnshoe (Fig. 6) with an embroidered vamp stripe as a decorative addition. This shoe is probably assignable to the early- to mid-12th century, when the vamp-stripe fashion appears to have been fairly common among better quality footwear. Concentrations of medieval leather waste were also recovered from some waterlogged deposits in the ditch. Tens of off-cuts of varied thickness came from one layer. They included strips and triangles, some with impressed lines for guidance during manufacture, but none with sewing marks to indicate whether they had been used. A smaller group of off-cuts of thin leather from another deposit are perhaps from making pouches or bags, since many of the fragments tend towards rectangular shapes. If correctly identified, this seems to be the first tangible evidence in London or elsewhere in England for a leatherworker specialising in making these accessories (Fig. 7).

The largest body of animal bone evidence from the pits relates to cattle butchery, with additional waste material from horn working, tanning and skinning waste associated with fur production. The only markets where fresh meat could be sold retail within the city between 1050-1150 were St Nicholas Shambles, now Newgate Street, and

Fig. 4: plan of medieval features on the site
East Cheap. The Stocks market, the nearest meat market to Moorgate, was not founded until 1283. Each market was made up of a number of shops and stalls, with only traders from within the City allowed to sell their meat. Slaughter would have been carried out at the back of the shops and the entrails carried down to the dung barges on the Thames. Presumably the bone waste from slaughter and butchery was deposited in conveniently large dumps – such as the pits at Northgate House. Although the markets were the only legal places for trade in meat, inevitably there would have been a number of ‘foreign’ traders, those from outside the city, and small-scale livestock keepers, processing and selling their meat without licence in the city.

The dumps of bone recovered from the Walbrook stream and pits at Northgate House represent a number of disposal episodes, many deposits with clear emphasis on cattle skulls, including mandibles. These bones are likely to represent waste produced immediately after slaughter. Removal of cheek meat was evident on a number of the mandibles and most showed butchery to remove the mandible from the rest of the skull, carried out to access the tongue. The slaughter and butchery activities are likely to have occurred near the site. There was no direct evidence for slaughterhouses or other indicators that the cattle were killed on site.

The butchery waste can be divided into two groups. The first group was of mature animals, as indicated from their tooth wear. This suggests that they were used for another purpose before their slaughter, such as milk production and breeding for the females, and as draught animals for the males. It is likely therefore, that the meat from a number of the cattle was in effect a by-product, with the animals sent to Smithfield, the livestock trading market, after they had outlived their useful lives in the fields.

The second group were young animals which would have been slaughtered for their meat. Cattle skulls with horn-cores attached were common in this group. Very limited evidence of horn removal by cutting was observed, although it is possible that the horns were left for the bonds between the core and horn to rot away, thus leaving no evidence for removal in the archaeological record. The horn, as a valuable commodity, would then have been distributed to the horn worker. The horn-cores could potentially be linked to another industry, that of tanning. Horn-cores have been found in association with tanneries and have been linked with the transportation of the hides for processing. Both tanning and horn-working industries were often located within the same area, usually close to a river or stream, and were probably closely bound together. Further indication of leather industries in the area derive from leather-working waste recovered from the timber-lined pits and ditch.
A number of large goat horn-cores recovered from within the ditch could suggest evidence for goat horn-working. Very few goat bones and no skulls with removed horn-cores were evident. One explanation for this is that the horn-cores were brought onto the site already removed from the skull but with the horn still attached to the core. Alternatively the remaining goat bones may have been disposed of elsewhere. The size of the goat horn-cores suggests that two-thirds were male, which also indicates the deliberate selection of the largest horns for working (Fig. 8). One particular aspect of the animal bone assemblage is the quantity of cat remains, from at least 24 individuals, most of whom were subadult. Similar medieval deposits of young cats were recovered from Exeter and King’s Lynn. Although no cut-marks were evident from these sites, the quantity of cats and their young ages were identified in both cases as resulting from individuals exploited for their skins. At Northgate House there is clear evidence for skinning, with cut-marks on either side of the nasal bone of two skulls, a common location (Fig. 9). No phalanges (the bones of the toe including the claw) were recovered, despite meticulous recovery of small bones from the pit, indicating that these may have remained attached to the skin, with the ankle joint carefully cut through. Similar deposits of cat bones from within London have been recovered from medieval layers at the Guildhall. Cut-marks were observed on a number of skulls and are likely to represent furrier waste. At Gateway House a medieval rubbish pit contained two cat skulls with similar cuts either side of the nose – also pointing to furrier waste.

In addition a dog skull, femur and most vertebrae and ribs was recovered, possibly from the same individual. The femur showed evidence of disarticulation cuts and may suggest that dogs as well as cats were skinned for their fur, with their bones, disposed of near the furriers’ workshop. Although much of the animal bone waste recovered from the Walbrook ditch and pits was associated with butchery, horn working, tanning and furrier waste, food waste was also recovered. These bones would have derived from the table and the kitchens and are likely to have been

Fig. 7: leather-working waste

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Fig. 8: horn-cores related to horn working
dumped as household refuse. Beef seems to have been the most common food waste recovered, with a quantity of the main meat-bearing bones represented. Moderate quantities of mutton and pork were also recovered, as well as birds such as chicken, goose, duck and partridge. Fish were also part of the diet, including marine species such as herring/sprat, cod family, plaice/flounder, mackerel and conger eel, and freshwater species including carp family and eel.

Food remains from edible plants were also recovered. They consisted of seeds of blackberry/raspberries and elderberries; plum and cherry stones; occasional breadwheat and wheat grains and fragments of hazelnut shell. The most abundant were seeds of blackberry/raspberries and elderberries from the timber-lined pits. These could have been used to make preserves, wines and tonics. The plum and cherry stones were mineralised, meaning they were probably preserved by being in contact with urine, faeces or bone. These also came from one of the timber-lined pits, which suggests that they were used as refuse or cesspits (Fig. 10).

The faunal and floral remains recovered through sampling from the pits and ditches indicate the natural environment within the area was quite wild, with the ditches remaining damp. The most abundant taxa were seeds of celery-leaved crowfoot, campions, fat hen and hemlock. Celery-leaved crowfoot and hemlock are both common by ditches. Celery-leaved crowfoot is common by nutrient-rich muddy water.20 Fat hen is a common weed in arable fields and waste ground, particularly in nutrient rich habitats.21 Campions generally grow in dry, waste ground and scrub.22 An abundance of frog/toad bones was recovered from the ditch, indicating that it continued to be damp and waterlogged.

**Conclusion**

The medieval evidence from Northgate House suggests that the site remained marginal and unsuitable for residential occupation, presumably as a result of the Walbrook Stream. However, this large open area in the City was useful for a range of industrial activities, including acting as an area for dumping waste from the slaughter of animals.

The animal bones recovered show an emphasis on butchery waste, mainly from cattle, which is likely to have derived from the meat markets within the city. Evidence was also recovered for goat horn working, furrier activities including cat skinning, and possible tanning. Other pits revealed the probability of metal-working taking place in the vicinity.
It is likely that much of the industrial waste recovered from the infilling of the ditch and timber-lined pits was opportunistic waste disposal in a redundant area of the city. Presumably the area was levelled once the ditch and pits were fully infilled and was converted to gardens. These gardens remained right up until 1598, when seven houses were erected.

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The drawings in the article were done by Faith Vardy and Sophie Lamb. The photographs were taken by Maggie Cox and Andy Chopping.

2. The plan is limited to Northgate House as there were no features of note from this period on Kent House or Copthall Close.
6. The Girdlers’ Guild was founded in 1326/7, with the Founders’ Guild slightly later in c. 1365 (the latter’s claim over buckles of some kinds might seem to muddy the present waters but so far the archaeological evidence in London is consistent in demonstrating the separate production of vessels and dress accessories) – J. Bromley and H. Child *The Armorial Bearings of the Guilds of London* (1960) 98 & 109.
7. Egan and Pritchard op. cit. fn 5, 122-3 fig. 80; cf. Egan op. cit. fn 5, 85-94.
11. Pudding Lane is said to be named after animals’ puddings (the guts and entrails) which were brought down the lane to the Thames from the butchers’ shops in Eastcheap. B. Weinreb and C. Hibbert *The London Encyclopaedia* (2nd edition 1993) 643.
15. Using male/female sizing criteria from B. Levitan ‘Bone analysis and urban economy: examples of selectivity and a case for comparison’ op. cit. fn 10, 167, Fig. 4.