

Assessment of the Ceramic Building Material from Hall Lane, Stickney (HOLS04)

One hundred and ninety nine fragments of ceramic building material from an archaeological evaluation at Hall Lane, Stickney, carried out by Pre-Construct Archaeology Lincoln were submitted for identification and assessment.

The material consists of medieval and later bricks, floor tiles and roof furniture and is notable for the wide variety of sources exploited.

Description

The material was all examined at x20 magnification using a stereo-microscope and the principal petrological characteristics of the fabric were recorded. Original dimensions (length, breadth and thickness) were recorded in mm. Traces of mortar were also examined under the microscope and their characteristics were also noted. A record was made by context, fabric, form, dimensions, mortar details and other comments (Appendix One). The material was quantified by fragment count, number of objects represented in each recorded group and weight. The total collection consisted of 199 fragments, representing no more than 185 objects and weighting 36.562kg

Fabrics

The study of ceramic building material in Lincolnshire is in its infancy and there are no accepted ware names in use. A considerable amount of work has taken place on the Lincoln ceramic building material fabrics but this remains unpublished. It was therefore necessary to devise a site-based fabric series which with further work can hopefully be identified to source.

Fabric A

This fabric contains sparse quartz and muscovite silt and has numerous rounded clay pellets. Most of the fragments found have a black core suggesting that the parent clay was organic.

The fabric has a lower quantity of silt than fabric S and is not calcareous. It is likely to have been made from a Jurassic clay.

Fabric C

Ten fragments of fabric C were found. The fabric has a calcareous groundmass but lacks the silt of Fabric S or the quartz sand of fabric CS.

Untempered calcareous fabrics were used at the Beverley tilery in the medieval period, although most were sand-tempered or silty, and are also common in the 19th century. It is

not known where these later tiles were made but calcareous, untempered clays occur widely (for example in the Jurassic as well as in recent estuarine muds).

Fabric CS

Two fragments of fabric CS were recovered. The fabric contains a rounded quartz sand and has a calcareous matrix.

Similar fabrics were produced at Beverley in the medieval period.

Fabric F

Thirteen fragments of Fabric F were recovered. The fabric contains a poorly sorted quartz silt/sand with a calcareous groundmass and rounded calcareous clay pellets. Only the texture of the silt/sand distinguishes this fabric from Fabric S.

Fabric F is probably of Flemish origin and is similar to that of glazed Flemish floor tiles, which are found in large numbers on later medieval sites in Eastern England. Study of the chemical composition of examples from Launceston Castle (Cornwall), Hull and Barton-upon-Humber show that there are two distinct fabrics which may differ in source or date and it would be interesting to see if the Stickney examples belong to either of these groups.

Fabric J

There are eleven examples of Fabric J from the site. The fabric is distinguished by the presence of large angular fragments of relict clay or shale. Some of these are black and therefore organic, others are light-firing and the remainder red-firing, like the groundmass. One example has a black core with sparse calcareous inclusions and the remainder have a fine oxidized groundmass with no visible inclusions. Rounded quartz sand is found in most of the fragments.

The characteristics of this fabric indicate a Jurassic origin. The presence of light-firing clays might suggest the inclusion of either lower or upper estuarine beds clay. The latter outcrops closer to Stickney, in the Washingborough/Cherry Willingham area but similar clays outcrop along the eastern side of the Jurassic limestone ridge throughout the county.

Fabric M

Four fragments of fabric M were recovered. The principal characteristic of this fabric is that it consists of marbled red-firing and yellow-firing sandy clays. The latter are likely to be calcareous clays. Sparse fragments of flint are present.

Without further analysis it is not possible to suggest a source for this fabric but options include the Jurassic clays of the central clay vale (the Kimmeridge and Oxford clays both include marls which might fire yellow) and glacial till composed of a mixture of these clays.

Fabric MS

Two fragments of fabric MS were recovered. Like fabric M, the most obvious characteristic is the marbled red-firing and yellow-firing clays. However, in contrast to fabric M these clays are silty.

Both of the fragments come from tiles which are likely to be modern in date and therefore although a local source is possible it is equally possible that the tiles were made at some distance from Stickney. Further analysis of the fabrics would probably allow a better estimate of their source.

Fabric MOD CMW

Three fragments of this fabric were recovered. The distinctive features of the fabric are the light colour and numerous rounded relict clay pellets. These suggest the use of a Coal Measures Whiteware clay.

The form of the tiles indicates a recent date (19th or 20th century) and therefore any number of potential sources are possible, for example the Staffordshire potteries or West Yorkshire.

Fabric S

One hundred fragments of Fabric S were recovered. The fabric contains quartz silt with some muscovite and biotite visible. The groundmass is calcareous. Sparse organic inclusions, perhaps straw, were noted in some examples but are not thought to be a deliberate temper. Complete bivalve shells were noted in three examples and in two cases these were identified as *cardium sp.* In most cases the calcareous inclusions in the groundmass have been altered by firing but in a few underfired examples individual microfossils and shell fragments can be identified.

The bricks and tiles in this fabric were formed in a mould which was sometimes lined with straw (perhaps the origin of the organic temper) and sometimes with fine quartz sand.

All of the characteristics in Fabric S suggest a fenland origin for the fabric, but there is a visual overlap with tiles produced in the Beverley tiliary.

Fabric SM

Four fragments of fabric SM were recovered. The fabric has no visible inclusions larger than c.0.1mm across and has a silty micaceous groundmass. One example is underfired and soft.

The form of the tiles made in this fabric suggests a recent date and no source can be suggested without further analysis of the clay.

Fabric T

Thirty eight fragments of Fabric T were recovered. The principal characteristic of this fabric is the presence of ill-sorted rounded inclusions, which include polished rounded quartz, other quartz, sandstone, flint, chalk and shell. This mixed suite of inclusions is typical of glacial till from the central clay vale and, quite likely, from the boulder clay on which Stickney itself is located. By contrast with boulder clays from the north and east of the Wolds, there are no visible fragments of basic igneous rock or other obvious erratics. Some examples include organic inclusions, but whether these were deliberate temper or present in the raw clay is unknown.

Fabric T might well be of local origin and is certainly very similar to material made from boulder clay in the area of Mareham-le-Fen, to the north of Stickney.

Fabric Y

Seven examples of Fabric Y were noted. Fabric Y is distinctive because of its yellow colour. All the examples present have quartz sand temper. In three cases, the moulding sand on the tiles has a red colour, due to haematite coating of the quartz grains. This might indicate that a ferruginous sandstone was the source of the sand.

Yellow bricks and tiles are known to have been imported to eastern England from the low countries and especially Flanders. However, upper Jurassic marls which outcrop locally were also used to make such tiles, for example in Cambridgeshire, and a local origin is also possible.

Forms

Most of the fragments found could be assigned to a form (Table 00).

The bricks included several whose width and thickness could be determined (Figure 1). These suggest that in addition to variation as a result of shrinkage on drying and firing there were also differences in the desired shape of the bricks. The majority of the bricks ranged from 117 to 138mm in breadth and 46 to 65mm in height. In addition, there were three bricks with a lower breadth:height ratio (112:56mm, 119:60mm, 132:76mm) and two which were even narrower (102:60mm and 105:60mm). Almost all of the measureable bricks were of fabric S so this variation in dimensions is not related to fabric. Furthermore, most of the

bricks were recovered from deposits of similar age (associated with pottery of late 15th to 16th century or later 16th to 17th century date). They may indicate that precise shape and size was not important (which would imply the use of thick mortar beds to level up the courses) or that at least three different batches of tiles, made for three separate structures, are represented in the measured bricks.

Five fragments are tentatively identified as daub, although in no case was a wattle impression noted. In one case the daub has a flat face and had straw impressions on the inner surface, which was not precisely parallel with the flat face.

One fragment of an unknown form was noted (Fabric MS). It comes from a curved tile and has a projecting nib on the outside of the nib. It might be either a U-sectioned land drain or a pantile. In either case a 19th or 20th-century date is likely.

Twenty five flat roof tiles were recovered. Most of these were moulded tiles, one of which has a nib formed in the mould and later folded up (Fabric J). Four of these tiles had mortar coating suggesting that mortar was used between the layers of tile. The MOD CMW tiles were machine-moulded and one has a circular nail or peg hole.

Thirteen fragments of floor tile were found. Two of these had complete sides, both 225mm long. the tiles ranged from 29mm to 34mm thick. The tiles were unglazed with traces of trimming on the top and bottom surfaces and knife-cut slightly bevelled edges. The tiles have circular nail holes in the top surface at the four corners.

A single unidentified object was recovered (Fabric C). It appears to have been cut using a metal mould and is trimmed or sliced on both flat surfaces. The shape appears to be a trefoil with the slight trace of a circular hole. The regularity of the tile suggests a modern date and it is reminiscent of edging tiles used in the Victorian period and later to line garden paths and lawns. Alternatively, it might be from an elaborately decorated ridge tile.

Two definite fragments of pantile were recorded.

Table 1

| Form | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 12 | 13 | Grand Total |
|------------|---|----|----|----|---|---|---|----|---|----|----|-------------|
| BRICK | 5 | 57 | 34 | 18 | 3 | 9 | 1 | 13 | 2 | 4 | 3 | 149 |
| BRICK/FLAT | | | | | | | | 1 | | | | 1 |
| BRICK? | | | 1 | | | | | | | | | 1 |
| DAUB | | | | | | | | | 1 | | | 1 |
| DAUB? | | | 3 | | | | 1 | | | | | 4 |
| DRAIN/PANT | | | | 1 | | | | | | | | 1 |

| | | | | | | | | | | | | | |
|-------------|----|----|----|----|---|----|---|----|---|---|---|--|-----|
| FLAT | 2 | 4 | 2 | 2 | 1 | 12 | 2 | | | | | | 25 |
| FLAT/PANT | | | | | 1 | | | | | | | | 1 |
| FLOOR | 11 | | 2 | | | | | | | | | | 13 |
| OBJECT | | | | | | | 1 | | | | | | 1 |
| PANT | | | 1 | | | | 1 | | | | | | 2 |
| Grand Total | 16 | 59 | 38 | 26 | 5 | 12 | 3 | 28 | 5 | 4 | 3 | | 199 |

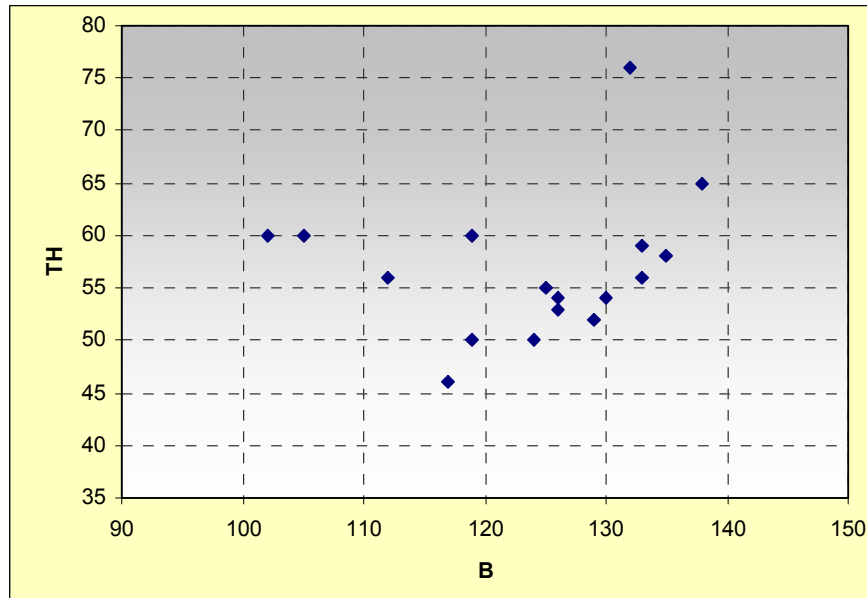


Figure 1

Mortar

Twenty fragments of ceramic building material had mortar attached to them. These include a Flemish floor tile, 15 bricks and four flat roof tiles. In most cases the mortar trace consisted solely of a thin veneer of white lime mortar but in a few cases larger fragments were present. These showed that there were at least two very different mortar recipes being used on the site. In the first, the mortar was mixed with quartz sand, containing sparse angular flint fragments, whereas in the second it was mixed with a recent shelly beach sand, including fragments of *cardium* and *mytilus*. It is possible that this shell sand came from a quaternary beach deposit in the Stickney area but the mussel shells retain their purple colour, which, being organic based, is unlikely to have survived. Therefore, it is possible that the shell sand was obtained from the coast. It is likely that thin section analysis would allow the source of the lime to be identified (through the presence of unburnt relict limestone fragments) as well as providing more evidence for the source of the shell and quartz sands.

Discussion

Trench 1

Sixteen fragments of ceramic building material were recovered from Trench 1 (Table 00). They came from contexts 102 and 101. The most notable finds were large fragments of unglazed Flemish floor tiles (Fabric F). There is little sign of wear on these tiles and it is likely that they were either only used for a small period of time or were used in a part of a structure where they would receive little wear. Glazed Flemish floor tiles were imported mainly in the later medieval period, and this is a likely date for the manufacture of these unglazed examples.

Table 2

| FABRIC | Form | 100 | 102 | Grand Total |
|----------------------------|-------|-----|-----|-------------|
| S - CALCAREOUS SILTY BRICK | 1 | 2 | 3 | |
| F - FLEMISH? | FLOOR | 1 | 10 | 11 |
| T - TILL | BRICK | 1 | 1 | 2 |
| Grand Total | | 3 | 13 | 16 |

Trench 2

Fifty-nine fragments of ceramic building material were recovered from Trench 2 (Table 00). The earliest stratified fragments came from context 220, the fill of ditch 220 (a fabric J flat roof tile) and context 211, the fill of ditch 212 (a fragment of Fabric A brick).

Following a flooding episode, ditch 212 was sealed by a spread, 203, which produced 24 fragments of brick (fabrics A, S and T) and one fragment of flat roof tile (Fabric S).

The fills of ditch 218 (217, 216 and 215) produced six fragments of brick, of fabrics C, S, J and T.

This ditch was cut by two further ditches which produced ceramic building material. Ditch 214 (fill 202) produced two brick fragments of fabrics CS and J whilst ditch 225 (fills 224 and 226) produced 16 fragments of bricks, mainly of fabric S but including one of fabric T.

Table 3

| FABRIC | Form | 201 | 202 | 203 | 211 | 215 | 216 | 217 | 220 | 224 | 226 | Grand Total |
|----------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| A - FABRIC A | BRICK | | | 1 | 1 | | | | | | | 2 |
| C - CALCAREOUS | BRICK | | | | | 1 | | | | | | 1 |

| | | | | | | | | | | | |
|-----------------------|-------|---|---|----|---|---|---|---|---|---|----|
| CS - CALCAREOUS SANDY | BRICK | 1 | | | | | | | | | 1 |
| J - JURASSIC CLAYS | BRICK | 1 | | | 1 | | | | | | 2 |
| | FLAT | | | | | | | 1 | | | 1 |
| S - CALCAREOUS SILTY | BRICK | 7 | | 10 | | 3 | | | 8 | 7 | 35 |
| | FLAT | | | 1 | | | | | | | 1 |
| T - TILL | BRICK | 1 | | 13 | | | 1 | | 1 | | 16 |
| Grand Total | | 8 | 2 | 25 | 1 | 2 | 3 | 1 | 1 | 9 | 59 |

Trench 3

Thirty-eight fragments of ceramic building material were recorded from Trench 3 (Table 4). These came from five contexts. The earliest of these, stratigraphically, is a dump of builders waste, 301, and an occupation deposit, 323. These produced fragments of Fabric T daub? and brick. The remaining deposits are all likely to date to the later 16th century and produced fragments of Fabric S bricks as well as four fragments of Fabric T bricks.

Table 4

| fabric | Form | 301 | 306 | 314 | 316 | 323 | Grand Total |
|-------------|--------|-----|-----|-----|-----|-----|-------------|
| S | BRICK | | 24 | | 6 | | 30 |
| | BRICK? | | | 1 | | | 1 |
| T | BRICK | 1 | 3 | | | | 4 |
| | DAUB? | | | | | 3 | 3 |
| Grand Total | | 1 | 27 | 1 | 6 | 3 | 38 |

Trench 4

Twenty six fragments of ceramic building material were recovered from Trench 4. The earliest stratified pieces come from context 415, the fill of a drainage ditch 416. They consist of a fragment of fabric J flat tile and two pieces of Fabric S bricks. These are consistent with the early 16th century or later date assigned to the pottery from the feature.

Five fragments of ceramic building material were recovered from context 405, the fill of ditch 406. They consist of three fragments of Fabric S brick, a fragment of fabric T brick and a fragment of Fabric T flat tile, the only example from the site. These too are consistent with the date of the associated pottery (late 16th-century or later).

Two fragments of Fabric S brick were recovered from context 407, the fill of a shallow ditch 408. The relationship of this ditch to ditch 406 is indeterminate and the brick is only broadly datable to the later medieval and post-medieval periods.

Thirteen fragments were recovered from deposits associated with early 17th century or late pottery (contexts 409, 423 and 424). They consist of fragments of brick in Fabric C (409), Fabric S (409 and 424) and fabric SM (409 and 423); fragments of pantile in fabric SM (423) and fragments of floor tiles in fabric F (423 and 424). The floor tile fragments, unlike those from Trench 1, come from worn, glazed tiles. The pantile from context 423 suggests a later 17th century date, which would be consistent with the position of this context, immediately below topsoil.

Three fragments were recovered from context 400, topsoil, and these include a fragment of a Fabric MS drain or pantile for which a modern date is likely.

Table 5

| FABRIC | Form | 400 | 405 | 407 | 409 | 415 | 423 | 424 | Grand Total |
|-------------|------------|-----|-----|-----|-----|-----|-----|-----|-------------|
| C | BRICK | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| F | FLOOR | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| J | FLAT | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| MS | DRAIN/PANT | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| S | BRICK | 0 | 3 | 2 | 5 | 2 | 0 | 1 | 13 |
| | FLAT | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| SM | BRICK | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 |
| | PANT | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| T | BRICK | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | FLAT | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Grand Total | | 3 | 5 | 2 | 8 | 3 | 3 | 2 | 26 |

Trench 5

Five fragments of ceramic building material were recorded from Trench 5. They come from four contexts, all of which are likely to be of medieval date. Contexts 503, 505 and 507 are likely to date to the later 13th or 14th centuries and produced fragments of fabric J flat roof tiles and Fabric T bricks. Context 511 has no associated finds and is the fill of a ditch which cuts another ditch containing later 11th or 12th-century pottery and is cut by a pit containing 14th to 15th-century pottery. The single fragment of Fabric Y flat roof tile is likely to date to the later medieval period and this is consistent with its stratigraphic position.

Table 6

| fabric | Form | 503 | 505 | 507 | 511 | Grand Total |
|-------------|-------|-----|-----|-----|-----|-------------|
| J | FLAT | | | 1 | | 1 |
| T | BRICK | 1 | 1 | 1 | | 3 |
| Y | FLAT | | | | 1 | 1 |
| Grand Total | | 1 | 1 | 2 | 1 | 5 |

Trench 6

Twelve fragments of ceramic building material were recovered from Trench 6. They come from five contexts (Table 7).

Of these, three probably date to the medieval period. Context 601 is a layer of subsoil cut by pit 621 and contexts 604 and 607 are fills of ditch 605. The former produced Fabric T brick and the latter produced Fabric C, S and T brick fragments and a Fabric J flat roof tile.

Context 603 is probably post-medieval and produced another fragment of Fabric J flat roof tile whilst context 600 is modern and produced Fabric C and S bricks and a Fabric SM flat roof tile or pantile.

Table 7

| fabric | Form | 600 | 601 | 603 | 604 | 607 | Grand Total |
|-------------|-----------|-----|-----|-----|-----|-----|-------------|
| C | BRICK | 1 | | | 1 | | 2 |
| J | FLAT | | | 1 | | | 1 |
| S | BRICK | 1 | | | 1 | 2 | 4 |
| T | BRICK | | 2 | | 1 | | 3 |
| Y | FLAT | | | | 1 | | 1 |
| SM | FLAT/PANT | 1 | | | | | 1 |
| Grand Total | | 3 | 2 | 1 | 4 | 2 | 12 |

Trench 7

Trench 7 produced three fragments of ceramic building material, from two contexts (Table 8).

Context 715 is only dated by the Fabric S brick and Fabric T daub fragments it produced, whilst the Fabric Y flat roof tile from context 701 is dated to the late 13th-century or later by associated pottery.

Table 8

| fabric | Form | 701 | 715 | Grand Total |
|-------------|-------|-----|-----|-------------|
| S | BRICK | | 1 | 1 |
| T | DAUB? | | 1 | 1 |
| Y | FLAT | 1 | | 1 |
| Grand Total | | 1 | 2 | 3 |

Trench 8

Twenty-eight fragments of ceramic building material were recovered from Trench 8. They come from 10 contexts (Table 9). One context can be dated to the medieval period (804). This produced flat tiles of fabrics C and J and the unidentified Fabric C object. The

contextual date for the latter suggests that it must be from an elaborate ridge tile rather than a modern edging tile, or that the deposit is contaminated, or actually does date to the modern period but only contains earlier finds. Two contexts can be dated to the later medieval period either by associated pottery by their relationship to deposits containing later medieval pottery. Here too there is a possible discrepancy, since context 833 has produced a fragment of Fabric SM pantile. Whilst this might be a very early, possibly imported, tile from the low Countries it is perhaps more likely to be of later 17th-century or later date.

Table 9

| fabric | Form | 800 | 804 | 813 | 814 | 817 | 818 | 829 | 831 | 833 | 839 | Grand Total |
|-------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| A | BRICK | 1 | | | 1 | | | | | | 1 | 3 |
| C | BRICK | | | | 1 | | | | | | | 1 |
| | FLAT | | 1 | | | | | | | | | 1 |
| | OBJECT | | 1 | | | | | | | | | 1 |
| J | FLAT | | 1 | | | | | | | 2 | 2 | 5 |
| M | BRICK | | | | | | | | | 2 | | 2 |
| S | BRICK | | | 1 | | | | 1 | | 1 | 1 | 4 |
| | FLAT | | | | | | | | 2 | | | 2 |
| SM | PANT | | | | | | | | | 1 | | 1 |
| T | BRICK | | | | | 3 | | | | | | 3 |
| Y | BRICK/FLAT | | | | | | | | | 1 | | 1 |
| | FLAT | | | | | | 1 | | | | | 1 |
| MOD CMW | FLAT | 2 | | | | | | 1 | | | | 3 |
| Grand Total | | 3 | 3 | 1 | 2 | 3 | 1 | 2 | 2 | 7 | 4 | 28 |

Trench 9

Five fragments of ceramic building material were recovered from Trench 9. They come from four contexts (Table 10). All of these contexts might be of later medieval date, mostly being dated by associated pottery. These include the fills of a large quarry pit, 911, which produced a fragment of Fabric T brick and fabric Y flat tile. The latter might be expected to be of late medieval date although the fills of the pit suggest it might be slightly earlier (i.e. later 13th to 14th-century lower fills and 14th-century upper fill). Context 916 comes from the filling of a small gully and is dated solely by the fragment of fabric M brick. A post-medieval or modern date seems likely for this fabric although a fragment came from an apparently late medieval deposit in Trench 8.

Table 10

| fabric | Form | 903 | 908 | 912 | 916 | Grand Total |
|--------|------|-----|-----|-----|-----|-------------|
|--------|------|-----|-----|-----|-----|-------------|

| | | | | | |
|-------------|-------|---|---|---|---|
| M | BRICK | | | 1 | 1 |
| T | BRICK | | 1 | | 1 |
| | DAUB | 1 | | | 1 |
| Y | FLAT | | 1 | 1 | 2 |
| Grand Total | | 1 | 1 | 2 | 5 |

Test Pit 2

Four bricks were sampled from the brick structure excavated in Test Pit 2. These bricks were all of Fabric S, made in straw-lined moulds and in two cases had recent marine shell fragments in the mortar. Three had measurable widths (125mm to 138mm) and all four had measurable thicknesses (55mm to 65mm thick).

The only other instances of this shelly mortar were recovered from later 16th-century deposits (Ditch 319 in Trench 3 and Ditch 416 in Trench 4) but since these contained bricks from destroyed buildings, the buildings themselves are likely to be somewhat earlier.

Test Pit 3

Three fragments of brick were recovered from Test Pit 3. These bricks were of fabrics C, S and CS and cannot be closely dated.

Dating and sequence

It seems clear from the stratigraphic information presented above that Fabric J flat roof tiles were in use on the site in the 13th to 14th centuries and that their use pre-dates the introduction of the Fabric Y flat roof tiles and the use of brick. Neither of these types could have been made in the immediate area around Stickney. However, there is less clear evidence for the relative date of the various brick fabrics although there are hints that Fabric T might have come into use before Fabric S. Both of these fabrics could have been made locally although similar raw materials occur further afield and without further analysis it is not possible to discount a more distant source. The Fabric F floor tiles were clearly used for two separate pavements, not necessarily of the same date, and it is not known whether the two pavements were made in the same centre or not. This too could be established with further analysis. It is likely that they are both of later 15th-century or later date, since this is the period at which such tiles were imported in large quantities from the Low Countries. There is very little evidence for any activity on the site after the end of the 16th century until the 19th or 20th century and this too helps to provide a date before which the tiles were made. Several types found in the evaluation have a late appearance (i.e. late 18th, 19th or 20th century) but some of these occur in association with much earlier pottery and stratigraphy, especially in

Trench 8. Pending the excavation of larger, better stratified groups of ceramic building material it is best to keep an open mind about these groups (Fabrics A, M, and MS).

Assessment

The Stickney ceramic building material shows a remarkable variety in terms of the range of fabrics present, the exploitation of raw materials (ranging from the Jurassic upper estuarine beds to the modern coast, as well, possibly the Low Countries) and the size and shape of the bricks and tiles used. At present, there is very little useful comparative material available, because the material comes from different sources from those used at Lincoln and Boston, where the study of ceramic building material has progressed further.

It is likely that the analysis of a sample of the material would allow the tentative conclusions given here for the source of the various fabrics to be enhanced and tested and would also provide a foundation for the study of medieval and post-medieval building material in this part of the Lincolnshire Fens.

It also seems likely, from the evidence of these trenches, that different fabrics and forms were being used in different parts of the site, either indicating different building histories in those areas or the exploitation of different resources at the same time. This also potentially provides a means of correlating the archaeological sequences in different parts of the site.

It is recommended, therefore, that samples of the various fabrics identified in this study are selected for thin section and chemical analysis, in order to provide a secure basis for future work and to test and expand the various suggestions made here for the origin of the fabrics. In addition, it is recommended that samples of the two different mortars are thin sectioned.

Table 11 lists the number of samples recommended for each fabric group. Ideally, a single thin section and six chemical analysis samples would be selected for each fabric group. However, in many cases there are not sufficient examples of the fabric in the collection. Where possible, the samples are chose from the earliest stratified examples in the collection and from contexts which can be independently dated (by pottery) in preference to those which cannot.

Table 11

| fabric | ICPS | TS | TS;ICPS | Grand Total |
|--------|------|----|---------|-------------|
| A | 2 | | 1 | 3 |
| C | 4 | | 1 | 5 |
| F | 6 | 1 | 1 | 8 |
| J | 5 | | 1 | 6 |
| M | | | 1 | 1 |
| MS | | | 1 | 1 |

| | | | | |
|-------------|----|---|----|----|
| S | 5 | 1 | 1 | 7 |
| SM | 4 | | 1 | 5 |
| T | 5 | | 1 | 6 |
| Y | 5 | | 1 | 6 |
| Grand Total | 36 | 2 | 10 | 48 |

Thin sections would be made at the Department of Earth Sciences, University of Manchester and the chemical analyses would be carried out at the Royal Holloway College, London, using Inductively Coupled Plasma Spectroscopy. Samples are costed at £22.50 per thin section and £23.50 for each chemical analysis. These prices include the petrological and statistical analysis and the preparation of a written report. Thus, the total cost of the recommended work is £1351, excluding VAT or £1587 inclusive of VAT.

Because of the small size of the individual assemblages, and the need to have more material from securely stratified assemblages, it is not recommended that the ceramic building material from the evaluation is published on its own, although it should be included in any post-excavation work following further archaeological investigation of the site. None of the material requires illustration, photography or special storage.

The collection contains a large number of fragments of Fabric S bricks. It is recommended that only a sample of these is retained but that this sample should contain all material stratified in medieval deposits.

Appendix One

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|--------|---------|--------|-------|------|-----|--|---------------------------------|-----|-----|----|-----------|--------|
| 1 | 100 | F | FLOOR | 1 | 1 | CIRCULAR NAIL HOLES IN ALL CORNERS | RQ SAND MORTAR | 225 | 225 | 29 | | TS |
| 1 | 100 | S | BRICK | 1 | 1 | SANDED MOULD | | | 130 | 54 | | |
| 1 | 100 | T | BRICK | 1 | 1 | | | | | 50 | | |
| 1 | 102 | F | FLOOR | 1 | 1 | SANDED MOULD;KT SIDES AND BASE | | | | | | ICPS |
| 1 | 102 | F | FLOOR | 3 | 3 | SANDED MOULD;KT SIDES AND BASE;CIRCULAR NAIL HOLE | | | | | | ICPS |
| 1 | 102 | F | FLOOR | 3 | 3 | SANDED MOULD;KT SIDES AND BASE;CIRCULAR NAIL HOLE | | | | | | ICPS |
| 1 | 102 | F | FLOOR | 2 | 1 | SANDED MOULD;KT SIDES AND BASE;CIRCULAR NAIL HOLE | | 225 | 225 | 34 | | ICPS |
| 1 | 102 | F | FLOOR | 1 | 1 | FINE SANDED BASE;KT SIDES;CIRCULAR NAIL HOLE;UNGLAZED? | WORN UPPER SURFACE | | | 33 | | ICPS |
| 1 | 102 | S | BRICK | 1 | 1 | SANDED MOULD | | | | 55 | | |
| 1 | 102 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | 132 | 76 | | |
| 1 | 102 | T | BRICK | 1 | 1 | SANDED MOULD;FLANGE ALONG LONG EDGE | MORTAR WITH RQ AND SPARSE FLINT | | | 49 | | |
| 2 | 201 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | 117 | 46 | | |
| 2 | 201 | S | BRICK | 1 | 1 | CLAY CRUMBS ON BASE | | | 124 | 50 | | |
| 2 | 201 | S | BRICK | 3 | 3 | | | | | | | |
| 2 | 201 | S | BRICK | 2 | 1 | | | | | | | |

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|--------|---------|--------|-------|------|-----|--------------------|----------|---|-----|----|-----------|---------|
| 2 | 201 | T | BRICK | 1 | 1 | | | | | | | |
| 2 | 202 | CS | BRICK | 1 | 1 | | | | | | | |
| 2 | 202 | J | BRICK | 1 | 1 | SANDED MOULD | | | | | | |
| 2 | 203 | A | BRICK | 1 | 1 | | | | | | | TS;ICPS |
| 2 | 203 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | | 54 | | |
| 2 | 203 | S | BRICK | 1 | 1 | SANDED MOULD | MORTARED | | 129 | 52 | | |
| 2 | 203 | S | BRICK | 1 | 1 | SHELL-SANDED MOULD | | | 119 | 60 | | |
| 2 | 203 | S | BRICK | 1 | 1 | SANDED MOULD | | | | 58 | | |
| 2 | 203 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | 112 | 56 | | |
| 2 | 203 | S | BRICK | 1 | 1 | SANDED MOULD | | | | | | |
| 2 | 203 | S | BRICK | 2 | 2 | | | | | | | |
| 2 | 203 | S | BRICK | 1 | 1 | SANDED MOULD | | | | | | |
| 2 | 203 | S | FLAT | 1 | 1 | SANDED MOULD | | | | | | |
| 2 | 203 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | | 58 | | |
| 2 | 203 | T | BRICK | 1 | 1 | | | | | | | |
| 2 | 203 | T | BRICK | 2 | 1 | | | | | 60 | | |
| 2 | 203 | T | BRICK | 1 | 1 | | | | | 71 | | |
| 2 | 203 | T | BRICK | 9 | 9 | | | | | | | |
| 2 | 211 | A | BRICK | 1 | 1 | | | | | | | ICPS |
| 2 | 215 | J | BRICK | 1 | 1 | | | | | | | ICPS |
| 2 | 215 | C | BRICK | 1 | 1 | SANDED MOULD | | | | | | ICPS |
| 2 | 216 | S | BRICK | 3 | 3 | | | | | | | ICPS |

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|--------|---------|--------|-------|------|-----|-----------------------|----------------------------------|---|-----|----|-----------|--------|
| 2 | 217 | T | BRICK | 1 | 1 | SANDED MOULD | | | | | | |
| 2 | 220 | J | FLAT | 1 | 1 | PULLED-UP NIB | | | | | | ICPS |
| 2 | 224 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | 126 | 53 | | |
| 2 | 224 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | | 56 | | |
| 2 | 224 | S | BRICK | 1 | 1 | SANDED MOULD | MORTARED | | | | | |
| 2 | 224 | S | BRICK | 1 | 1 | SANDED MOULD | MORTARED | | | 53 | | |
| 2 | 224 | S | BRICK | 2 | 2 | | | | | | | |
| 2 | 224 | S | BRICK | 1 | 1 | KT SIDE | | | | 54 | | |
| 2 | 224 | S | BRICK | 1 | 1 | SANDED MOULD | | | 102 | 60 | | |
| 2 | 224 | T | BRICK | 1 | 1 | | | | | | | |
| 2 | 226 | S | BRICK | 6 | 1 | | | | | | | |
| 2 | 226 | S | BRICK | 1 | 1 | SANDED MOULD | MORTARED OVER BREAKS | | 133 | 59 | | |
| 3 | 301 | T | BRICK | 1 | 1 | | | | | | | |
| 3 | 306 | S | BRICK | 2 | 2 | STRAW-LINED MOULD | | | | | | |
| 3 | 306 | S | BRICK | 2 | 2 | | | | | | | |
| 3 | 306 | S | BRICK | 1 | 1 | FLANGE ALONG ONE SIDE | | | | | | |
| 3 | 306 | S | BRICK | 2 | 2 | | HEAVILY WORN UPPER SURFACE | | | | | |
| 3 | 306 | S | BRICK | 15 | 15 | | | | | | | |
| 3 | 306 | S | BRICK | 1 | 1 | SANDED MOULD | | | | | | |
| 3 | 306 | S | BRICK | 1 | 1 | | MORTARED | | | | | |

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|--------|---------|--------|------------|------|-----|--|---|---|-----|----|-----------|---------|
| 3 | 306 | T | BRICK | 1 | 1 | SANDED MOULD | | | | | | |
| 3 | 306 | T | BRICK | 1 | 1 | SANDED MOULD | | | | | | |
| 3 | 306 | T | BRICK | 1 | 1 | WIDTH MAY BE ABRADED | | | 105 | 60 | | |
| 3 | 314 | S | BRICK? | 1 | 1 | | | | | | | |
| 3 | 316 | S | BRICK | 1 | 1 | SANDED MOULD | | | | 73 | | |
| 3 | 316 | S | BRICK | 1 | 1 | | MARINE SHELL AND R QUARTZ MORTARED | | | | | |
| 3 | 316 | S | BRICK | 4 | 4 | | | | | | | |
| 3 | 323 | T | DAUB? | 1 | 1 | FLAT FACE;STRAW BACKING | | | | | | |
| 3 | 323 | T | DAUB? | 2 | 2 | | | | | | | |
| 4 | 400 | S | FLAT | 1 | 1 | | MORTARED | | | | | |
| 4 | 400 | S | FLAT | 1 | 1 | | | | | | | |
| 4 | 400 | MS | DRAIN/PANT | 1 | 1 | U-SHAPED FIELD DRAIN? OR JUST POSSIBLY PANTILE? | | | | | | TS;ICPS |
| 4 | 405 | S | BRICK | 1 | 1 | SANDED BASE AND SIDES | | | 133 | 56 | | |
| 4 | 405 | S | BRICK | 1 | 1 | SANDED BASE AND SIDES;FAINT FLANGE ON NARROW SIDE | MORTARED | | 119 | 50 | | |
| 4 | 405 | S | BRICK | 1 | 1 | SANDED BASE AND SIDES | MORTARED | | 126 | 54 | | |
| 4 | 405 | T | FLAT | 1 | 1 | | | | | | | |
| 4 | 405 | T | BRICK | 1 | 1 | | | | | | | |
| 4 | 407 | S | BRICK | 2 | 1 | SANDED AND STRAW-LINED BASE AND SIDES | | | | 73 | | |

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|--------|---------|--------|-------|------|-----|--|--|---|---|----|-----------|---------|
| 4 | 409 | SM | BRICK | 1 | 1 | | | | | | | TS;ICPS |
| 4 | 409 | S | BRICK | 1 | 1 | SANDED BASE AND SIDES | | | | 49 | | |
| 4 | 409 | S | BRICK | 1 | 1 | FLANGE ALONG ONE EDGE;SANDED BASE AND SIDES | MORTARED | | | 56 | | |
| 4 | 409 | S | BRICK | 1 | 1 | | | | | | | |
| 4 | 409 | S | BRICK | 1 | 1 | | | | | | | |
| 4 | 409 | S | BRICK | 1 | 1 | | | | | | | |
| 4 | 409 | C | BRICK | 2 | 1 | | | | | | | ICPS |
| 4 | 415 | S | BRICK | 1 | 1 | | RECENT SHELLY SAND (INC PURPLE MUSSEL SHELL) | | | | | |
| 4 | 415 | S | BRICK | 1 | 1 | | | | | | | |
| 4 | 415 | J | FLAT | 1 | 1 | | | | | | | |
| 4 | 423 | SM | BRICK | 1 | 1 | | HEAVILY WORN SURFACE | | | | | ICPS |
| 4 | 423 | F | FLOOR | 1 | 1 | KT SIDES;SANDED BASE;DARK CUGL | | | | | | TS;ICPS |
| 4 | 423 | SM | PANT | 1 | 1 | | | | | | | ICPS |
| 4 | 424 | F | FLOOR | 1 | 1 | SANDED BASE;CUGL ON BASE | VERY WORN SURFACE | | | | | ICPS |
| 4 | 424 | S | BRICK | 1 | 1 | | | | | | | |
| 5 | 503 | T | BRICK | 1 | 1 | | | | | | | ICPS |

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|--------|---------|------------|-----------|------|-----|--|--------------------|---|---|----|-----------|---------|
| 5 | 505 | T | BRICK | 1 | 1 | | | | | | | ICPS |
| 5 | 507 | T | BRICK | 1 | 1 | | | | | | | ICPS |
| 5 | 507 | J | FLAT | 1 | 1 | | | | | | | ICPS |
| 5 | 511 | Y | FLAT | 1 | 1 | SANDED BASE | | | | | | TS;ICPS |
| 6 | 600 | SM | FLAT/PANT | 1 | 1 | | | | | | | ICPS |
| 6 | 600 | C | BRICK | 1 | 1 | MOD?;KT SIDES | | | | | | |
| 6 | 600 | S | BRICK | 1 | 1 | | | | | | | |
| 6 | 601 | T | BRICK | 2 | 1 | | | | | | | ICPS |
| 6 | 603 | J | FLAT | 1 | 1 | | | | | | | |
| 6 | 604 | S | BRICK | 1 | 1 | | MORTARED | | | | | ICPS |
| 6 | 604 | T | BRICK | 1 | 1 | | | | | | | ICPS |
| 6 | 604 | C | BRICK | 1 | 1 | | | | | | | TS;ICPS |
| 6 | 604 | Y | FLAT | 1 | 1 | SANDED BASE | | | | | | ICPS |
| 6 | 607 | S | BRICK | 1 | 1 | SANDED BASE AND SIDES | | | | 65 | | ICPS |
| 6 | 607 | S | BRICK | 1 | 1 | | WORN UPPER SURFACE | | | | | ICPS |
| 7 | 701 | Y | FLAT | 1 | 1 | SANDED BASE | | | | | | ICPS |
| 7 | 715 | T | DAUB? | 1 | 1 | ONE FLAT FACE | | | | | | TS;ICPS |
| 7 | 715 | S | BRICK | 1 | 1 | | | | | | | TS;ICPS |
| 8 | 800 | A | BRICK | 1 | 1 | FABRIC IS LIGHT-FIRING SLIGHTLY SILTY ORGANIC | | | | | | ICPS |
| 8 | 800 | MOD CMW | FLAT | 2 | 2 | PRESS MOULDED;MOD | | | | | | |

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|--------|---------|------------|------------|------|-----|--|----------|---|---|----|-----------|---------|
| 8 | 804 | J | FLAT | 1 | 1 | | | | | | | TS;ICPS |
| 8 | 804 | C | FLAT | 1 | 1 | MOD? | | | | | | ICPS |
| 8 | 804 | C | OBJECT | 1 | 1 | MOD?; 34MM WIDE;SLICED AND MOULD CUT | | | | | | ICPS |
| 8 | 813 | S | BRICK | 1 | 1 | | | | | | | ICPS |
| 8 | 814 | C | BRICK | 1 | 1 | SANDED BASE AND SIDES | | | | | | |
| 8 | 814 | A | BRICK | 1 | 1 | | | | | | | |
| 8 | 817 | T | BRICK | 3 | 1 | | | | | | | |
| 8 | 818 | Y | FLAT | 1 | 1 | RED SANDED BASE | | | | | | |
| 8 | 829 | MOD CMW | FLAT | 1 | 1 | PRESS- MOULDED;MOD;CIRCULAR PEG HOLE | | | | | | |
| 8 | 829 | S | BRICK | 1 | 1 | | MORTARED | | | | | |
| 8 | 831 | S | FLAT | 1 | 1 | | | | | | | |
| 8 | 831 | S | FLAT | 1 | 1 | SANDED BASE | | | | | | |
| 8 | 833 | M | BRICK | 2 | 1 | STRAW-LINED MOULD | | | | | | TS;ICPS |
| 8 | 833 | S | BRICK | 1 | 1 | KT SIDES | | | | | | |
| 8 | 833 | J | FLAT | 1 | 1 | | MORTARED | | | | | ICPS |
| 8 | 833 | SM | PANT | 1 | 1 | | | | | | | ICPS |
| 8 | 833 | J | FLAT | 1 | 1 | | | | | | | ICPS |
| 8 | 833 | Y | BRICK/FLAT | 1 | 1 | | | | | | | ICPS |
| 8 | 839 | S | BRICK | 1 | 1 | SANDED BASE AND SIDES | | | | 60 | | |
| 8 | 839 | J | FLAT | 1 | 1 | | MORTARED | | | | | |

| trench | context | fabric | Form | Nosh | NoV | Description | Use | L | B | TH | Condition | action |
|------------|---------|--------|-------|------|-----|---------------------------|---------------------------------------|---|-----|----|-----------|--------|
| 8 | 839 | J | FLAT | 1 | 1 | | MORTARED | | | | | |
| 8 | 839 | A | BRICK | 1 | 1 | | | | | | | |
| 9 | 903 | T | DAUB | 1 | 1 | | | | | | | |
| 9 | 908 | Y | FLAT | 1 | 1 | RED SANDED BASE | | | | | | ICPS |
| 9 | 912 | T | BRICK | 1 | 1 | | | | | | | |
| 9 | 912 | Y | FLAT | 1 | 1 | RED SANDED BASE | | | | | | ICPS |
| 9 | 916 | M | BRICK | 1 | 1 | | | | | | | |
| Test Pit 2 | 1202 | S | BRICK | 1 | 1 | ASH GLAZED;BASE AND SIDES | MODERN MARINE SHELL SAND MORTAR | | | 65 | | |
| Test Pit 2 | 1202 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | 125 | 55 | | |
| Test Pit 2 | 1202 | S | BRICK | 1 | 1 | STRAW-LINED MOULD? | MODERN MARINE SHELL SAND MORTAR | | 135 | 58 | | TS |
| Test Pit 2 | 1202 | S | BRICK | 1 | 1 | STRAW-LINED MOULD | | | 138 | 65 | | |
| Test Pit 3 | 1303 | C | BRICK | 1 | 1 | | | | | | | |
| Test Pit 3 | 1304 | S | BRICK | 1 | 1 | SANDED BASE AND SIDES | SANDY WHITE MORTAR | | | | | |
| Test Pit 3 | 1310 | CS | BRICK | 1 | 1 | | | | | | | |