

19 Phase 7a Settlement and activities behind the rampart 1550–1650 AD

19.1 Results

Phase 7a represents findings and features behind the Post medieval fortification and after its demolition in the mid 1600s over the time span of approximately 1550–1650 AD. It is an urban area with the expected findings of building remains, roads, water pipes, pits, etc. The remains were observed and registered in subarea phases 1N, phase 2+3, phase 4B, phase 45B, phase 5B-1, phase 5B-2 and phase 6 (Fig. 272). The largest number of features is from subarea phase 2+3.

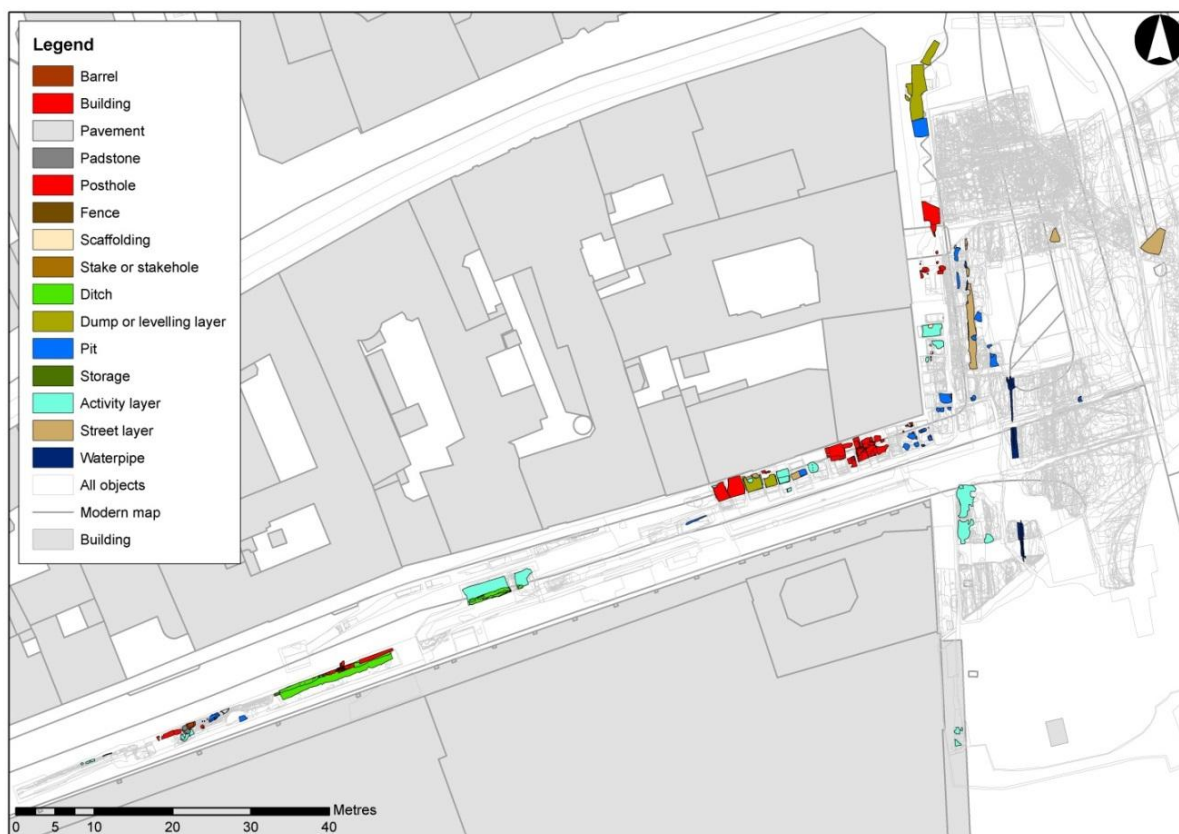


Fig. 272. All discussed features in time Phase 7a.

Due to fact that phase 2+3 was excavated in 21 stages in order to protect the standing building, Hviids Vinstue, the stratigraphy and linking of layers from the different stages of this part of the excavation has been difficult. There was also the use of different archaeological methods from different stage due to safety issues and the standing building. Some of the groups are likely to be part of the same feature, but since there are no actual direct connections between the groups they are kept separate and any possible linking is accounted for in the text (Tab. 44). This is one of the reasons for the high number of separate group numbers in this phase. This time phase was also affected by modern disturbances. The dating of findings in this phase is based on stratigraphy and datable finds.

Group/Subgroup	Type of feature	Subarea	Basic interpretation
214	Foundation wall, stairs	Phase 2+3	Building
442	Postholes, floor	Phase 2+3	Building
223	Timber, postholes	Phase 2+3	Building
235	Foundation, wall	Phase 1N	Building
776	Posthole, construction layer	Phase 1N	Wall?

207	Stones, wall, barrel	Phase 6	Building
692	Wall foundation	Phase 6	Wall foundation
204	Boulder, floor	Phase 6	Building
500774	Building activities	Phase 4B	Production activity
311764	Street surface	Phase 45B	Rampart street
228	Street surface	Phase 2+3	Street layers
245	Road	Trenches 19, 38 and 42	Road
500878	Street surface	Phase 1N	Street surface
261	Pavement	Phase 6	Pavement
316	Cut	Phase 2+3	Construction cut
238	Wooden structure	Phase 2+3	Scaffolding
347	Ditch	Phase 2+3	Ditch
397	Ditch	Phase 2+3	Ditch
234	Ditch	Phase 6	Ditch
436	Ditch	Phase 6	Ditch
500877	Ditch	Phase 1N	Drainage ditch
388	Dump and levelling layer	Phase 2+3	Trample?
394	Dump and levelling layer	Phase 2+3	Levelling layers
410	Dump and levelling layer	Phase 2+3	Dump layers
396	Dump and levelling layer	Phase 2+3	Levelling layer
329	Dump and levelling layers	Phase 2+3	Dump layers
334	Dump and levelling layers	Phase 2+3	Levelling layers
339	Dump and levelling layers	Phase 2+3	Dump layers
356	Dump and levelling layers	Phase 2+3	Levelling layers
392	Dump and levelling layers	Phase 2+3	Dump layers
393	Dump and levelling layers	Phase 2+3	Dump layers
399	Dump and levelling layers	Phase 2+3	Dump layer
402	Dump and levelling layers	Phase 2+3	Levelling layers
406	Dump and levelling layers	Phase 2+3	Levelling layers
407	Dump and levelling layers	Phase 2+3	Dump layers
419	Dump and levelling layers	Phase 2+3	Levelling layers
458	Dump and levelling layers	Phase 2+3	Levelling layers
472	Dump and levelling layers	Phase 2+3	Levelling layers
529	Dump and levelling layers	Phase 2+3	Levelling layers
500956	Dump and levelling layers	Phase 2+3	Levelling layers
500958	Dump and levelling layers	Phase 2+3	Levelling layer
502971	Levelling layers	Phase 45B	Levelling layers
847	Levelling layer	Phase 45B	Levelling layer
759	Levelling layers	Phases 5B-1 and 5B-2	Levelling layers
769	Dump layers	Phase 5B-1	Dump layers
500874	Levelling layers	Phase 1N	Levelling layers
500875	Levelling layers	Phase 1N	Levelling layers
500876	Dump layers	Phase 1N	Dump layers
500881	Dump layer	Phase 1N	Dump layer
667	Dump and levelling layers	Phase 4B	Dump and levelling layers
500745	Dump and levelling layers	Phase 4B	Dump and levelling layers
500755	Dump and levelling layers	Phase 4B	Dump and levelling layers
651	Cuts, fills	Phase 4B	Truncations
260	Dump and levelling layers	Phase 6	Dump and leveling layers
264	Dump and levelling layers	Phase 6	Dump and levelling layers
271	Dump and levelling layers	Phase 6	Dump and levelling layers
984	Dump and levelling layers	Phase 6	Dump and levelling layers

229	Activity layer	Phase 2+3	Rake-out
224	Fence	Phase 2+3	Fence
215	Pit	Phase 2+3	Pit
218	Pits	Phase 2+3	Pits
246	Pit	Phase 2+3	Pit
247	Pit	Phase 2+3	Pit
276	Pit	Phase 2+3	Pit
282	Pit	Phase 2+3	Pit
319	Pit	Phase 2+3	Pit
351	Pit	Phase 2+3	Pit
383	Pit	Phase 2+3	Pit
400	Pit	Phase 2+3	Pit
401	Pit	Phase 2+3	Pit
424	Pit	Phase 2+3	Pit
427	Pit	Phase 2+3	Pit
428	Pit	Phase 2+3	Pit
502970	Pits	Phases 1N and 45B	Pits
259	Pit	Phase 6	Pit
430	Pit	Phase 6	Pit
441	Pit	Phase 6	Pit
690	Pits	Phase 6	Pits
688	Pit	Phase 6	Pit
689	Pit	Phase 6	Pit
212	Pits	Phase 6	Pits
212	Barrel	Phase 6	Barrel
694	Wooden box	Phase 6	Storage
256	Padstone	Phase 6	Padstone
395	Posthole	Phase 2+3	Posthole
398	Posthole	Phase 2+3	Posthole
403	Posthole	Phase 2+3	Posthole
405	Posthole	Phase 2+3	Posthole
500926	Posthole	Phase 2+3	Posthole
500945	Posthole	Phase 2+3	Posthole
505	Posthole	Phase 45B	Posthole
775	Posthole	Phase 1N	Posthole
502294	Postholes	Phase 1N	Postholes
758	Posthole	Phase 5B-1	Posthole
763	Posthole	Phase 5B-1	Posthole
257	Posthole	Phase 6	Posthole
981	Posthole	Phase 6	Posthole
320	Waterpipes	Phases 5B-2 and 45B	Waterpipes
587	Waterpipe	Phase 45B	Waterpipe
762	Construction cut	Phase 5B-1	Construction cut
500940	Stakehole	Phase 2+3	Stakehole
414	Stakehole	Phase 2+3	Stakehole
220	Stakeholes	Phase 6	Stakeholes
500946	Stakes	Phase 2+3	Stakes
500947	Stakes	Phase 2+3	Stakes
500948	Stake	Phase 2+3	Stake

Tab. 44. Phase 7a. Groups, type of feature and basic interpretation.

As in the High and Late Medieval periods (Phase 5) there was quite a lot of activity around the area of the current Hviids Vinstue including the remains of buildings. In total there were traces of eight or nine buildings in this time phase in subarea phase 1N, phase 2+3 and phase 6. The buildings were mainly following the remains of buildings from Phase 5 (1200–1550 AD) which indicate that the land use had remained relatively unaltered during the High, Late and Post medieval periods (Fig. 273). Around the historic building Hviids Vinstue, the building remains follow the same facade line as in time Phase 5. These are interpreted as pre-dating the building of Hviids Vinstue or this plot.

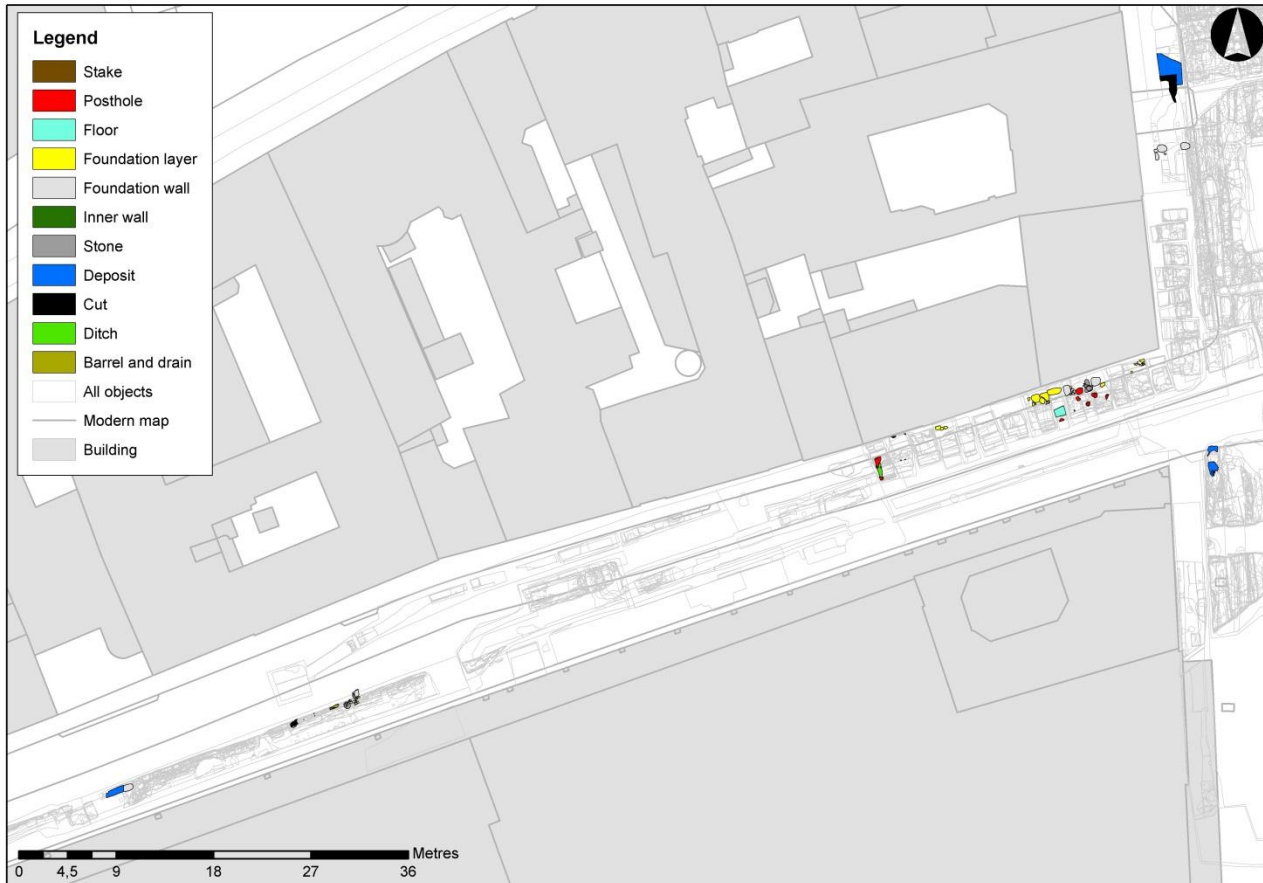


Fig. 273. Figure showing all building remains 1550–1650 AD.

19.1.1 Buildings in phase 2+3

Subarea 2+3 was excavated piecemeal due to the issues mentioned above, but the area carried evidence of the remains of at least three buildings.

G-214 is thought to represent a foundation wall for one of the buildings which pre-dates the present standing building Hviids Vinstue (built in 1723). It consisted of a row of large rolled boulders and smaller stones aligned ENE-WSW. One boulder (SS6050) appeared to have been placed in a cut (SC6409), and other stones (SS3038) appeared to have been placed on a foundation layer (SD3218) (Fig. 274). Three of the boulders were later packed around with small stones and other material. These apparent differences in construction technique could be due to the excavation conditions, as there were various modern disturbances and limits to the depth of the excavation. Contexts (SS206362) and (SS206363) consisted of orange-red bricks with a few yellow bricks between them. Stones (SS206367) were part of a step/stairs, secondary to the foundation wall where there was no bond between the brickworks in the stair and the foundation. The foundation wall was revealed south of the current southern wall of Hviids Vinstue and was slightly out

of alignment with the building. There were no traces of mortar or anything which could indicate the overlying structure. The boulders could have been reused from the former fortification in the 17th century.



Fig. 274. Boulders and stones (SS3038) in building G-214, facing north. Photo: Museum of Copenhagen.

Levelling layers G-396, G-406 and G-419 represent layers possibly contemporary with building G-214 directly to the north. These layers could have been put down after the foundations were built in order to support them and raise the street level.

A possible building structure G-442 was investigated just south of G-214 (see Fig. 277 below). The two structures were spatially related, but G-442 is stratigraphically younger than G-214 since levelling layer G-419 overlay this structure and is stratigraphically aligned with G-214.

Due to the excavation conditions it is difficult to ascertain the exact nature of the construction and phasing of this structure, but some kind of building is possible. It seems likely that all of the large postholes were related; SG-300, SG-301, SG-387, SG-395, SG-500920, etc., however the three latter mentioned were at a higher stratigraphic level and so may represent alterations or a rebuild of the structure where the postholes appeared to be respecting the alignment of the previous postholes, and the stakeholes could represent internal structures.

The area was again levelled with levelling layer G-394, into which were cut ditch and stakehole group (both SG-233), which align with some of the stakes in SG-244, and could again represent internal building features. The area was finally evened out with levelling layer G-410.

Wooden structure G-238 consisted of several vertical timber posts, post- and stakeholes with backfills and a single plank and was interpreted as part of a structure constructed when building Hviids Vinstue. There is a possibility that G-238 might be contemporary with building foundation G-214 – but since they were registered on either side of the

standing building of Hviids Vinstue and the stratigraphy is so complex in the area of phase 2+3 this can only be suggested. Two kalot slags recovered from the fill of posthole SC12012 belonging to the structure, but there were no other indications in the layers belonging to the structure, that some kind of smithing activity should had taken place.

G-223 consisted of rather fragmented building remains believed to have functioned as stables (Fig. 275). The construction was rather simple with posts, stakes (SG-348, SG-486, SG-487 and SG-488) and construction cuts (SG-292) for wooden walls. The simple construction and the usage layer SG-346 with decomposed organic material interpreted as manure makes the interpretation as a stable building viable. Also activity layer G-229 (see below) supports this interpretation.

G-228 represents layers that were initially interpreted as a street surface made of bluish grey light sandy clay with dense inclusions of stone, pebbles and CBM, with a usage layer in between (Fig. 275). The stone surface appeared to be best preserved to the west and petered out to the east. An E-W wheel rut was seen but not surveyed to the west. It is possible this surface was contemporary with the “stable” construction G-223 to the west. This can also suggest some kind of open fronted stable building accessed straight from the street.



Fig. 275. Stable building G-223 with street layer G-228.

Sealing both stable building G-223 and street surface G-228 was activity layer G-229. This group represents layers that mainly seem to be rake-out from the stables. The layers contained a lot of straw and manure and indicate that there had been a stable in the nearby area. The group may represent the final use or cancellation of the stable G-223 and the surface group G-228 below. Finds from the usage phase indicate of the building was in use in the Late Medieval period, but finds suggest G-229 dated to the Post medieval period. Dump and levelling layer G-356 is probably part of the levelling prior to the making of the street.

The usage layer (SG-384) consisted of firm, mid bluish grey silty clay with inclusions of CBM and pebbles (Fig. 276). SG-384 has been suggested as a street surface laid after the deconstruction of building G-223. Both because of the materials used; CBM and pebbles which are quite common in road and street surfaces, but also because of its trampled/metalled character. No wheel ruts were registered in the layer, but it is still a relevant interpretation.

The deconstruction phase of the building mainly consisted of CBM and one of the deposits could be a collapsed roof since the layer was full of broken roof tiles.



Fig. 276. Deposit (SD10904) in SG-384 belonging to G-223, facing north. Photo: Museum of Copenhagen.

19.1.2 Buildings in phase 1N and phase 4B

There are the remains of two buildings in these subareas. One of the buildings is most likely to be part of building G-248 in subarea phase 45A.

Group G-776 represents a possible posthole cut, backfill and a layer of demolition material of crushed brick and sand which could be associated with the construction of a wall (SS29955) belonging to building G-248 in phase 45A (Fig. 277).

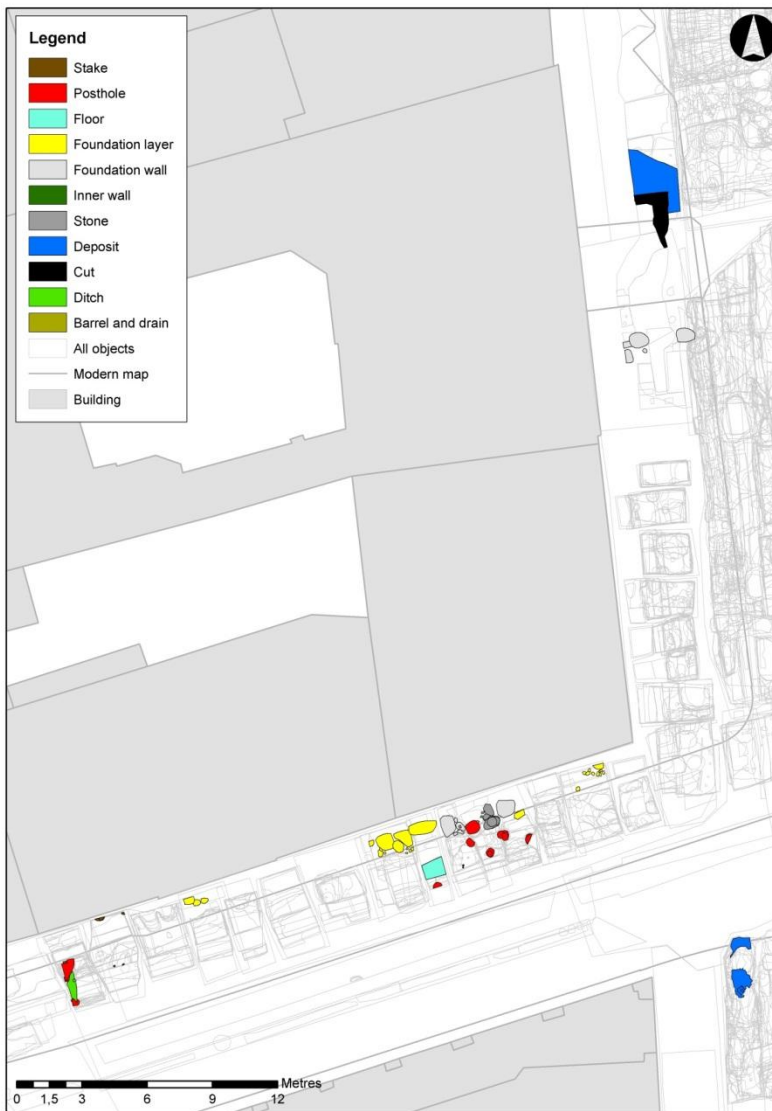


Fig. 277. Building remains. Marked in blue and black to the north is G-776 and G-235. The yellow foundation layer represents building G-214 and red postholes and floor layer are part of G-442. Blue deposit to the south represents G-500744.

It belongs to a medieval wall, as suggested by the size of the bricks (“munkesten”) and possibly formed part of a structure relating to the city wall and Østerport. It appears to be extending eastwards towards these structures and may be part of the gate building (see Chapter 15). G-776 is stratigraphically older than G-235.

Foundation and wall G-235 represents the fragmentary remains of a building consisting of construction cuts, backfills, foundation stones, mortar (impressions) and part of a brick wall. Situated with a north-south and east-west orientation most of the feature had been badly damaged by modern pipes and electrical cables. Consequently only residual mortar traces could be found to the south and some mortar had remained fixed to a wall foundation stone to the north.

Foundation (SS29300) consisted of two large granite boulders; one serving as foundation and the other serving as part of the wall core. Three smaller natural stones of irregular shape were located immediately south of the brickwork, facing the northern side of the wall. These were between 0.13 m and 0.30 m in length. They were probably part of the rubble core of the wall. The boulders were found within the wall interior and at foundation level. Foundation

(SS30007) consisted of large unworked, but relatively smooth, reddish granite stones between 0.30-1.00 m in diameter (Fig. 278).



Fig. 278. Granite boulders in foundation (SS30007) in building G-235, facing north. Photo: Museum of Copenhagen.

Mortar was partially present in a straight line along the top of these stones and at either end some bricks were present mortared onto the stones (SS30092). This appears to show that a brick wall was constructed directly on top of the foundation stones. The lime mortar was probably intended to bond two brick faces each on the northern and southern sides of the wall with a rubble core between. Since the wall had been badly damaged only residual mortar traces could be found to the south and some mortar had remained fixed to a wall foundation stone to the north.

The brick wall (SD29296) on top of (SS29300) consisted of red bricks (L: 0.24 m) which faced the northern part of the wall, but were absent on the southern face, although the mortar in which it had rested was present. Two courses of brickwork were present on the northern face, but not enough survived to indicate the type of coursing used.

The building is later than the wall to the north SS29955 belonging to G-248, bricks from which may be present in the backfill of the wall cut (see above). However, the stratigraphy was not conclusive due to modern truncation so they could have existed contemporaneously. The size of the bricks indicates that the building could be medieval, but bricks were often re-used in later structures which means that the structure probably is Post medieval.

19.1.3 Buildings in phase 6

In subarea phase 6 building remains G-204 and G-692 were sited at the same stratigraphical level. The youngest contexts found in the area (G-207) was stratigraphical later than the context related to G-692.

The best preserved remains in this subarea were from building G-207 – extending up to a length of 16 metres (Fig. 279). This group represents a building with two foundation stones, layers in between, an inner wall and a barrel. SG-438 represents the construction phase of the building. It consisted of two granite boulders (ST14434 and ST59858), a series of levelling layers constructed from mixed dump material and finally a clay floor layer (SD13742) was created, which sealed everything and provided the base for inner wall SG-219. This inner wall was represented by a 1.8 m long NE-SW alignment of stakeholes in two rows with backfills of mixed clay and charcoal. The stakes were cut through the floor layer (SD13742), so the building had to have been constructed before this inner wall was built.

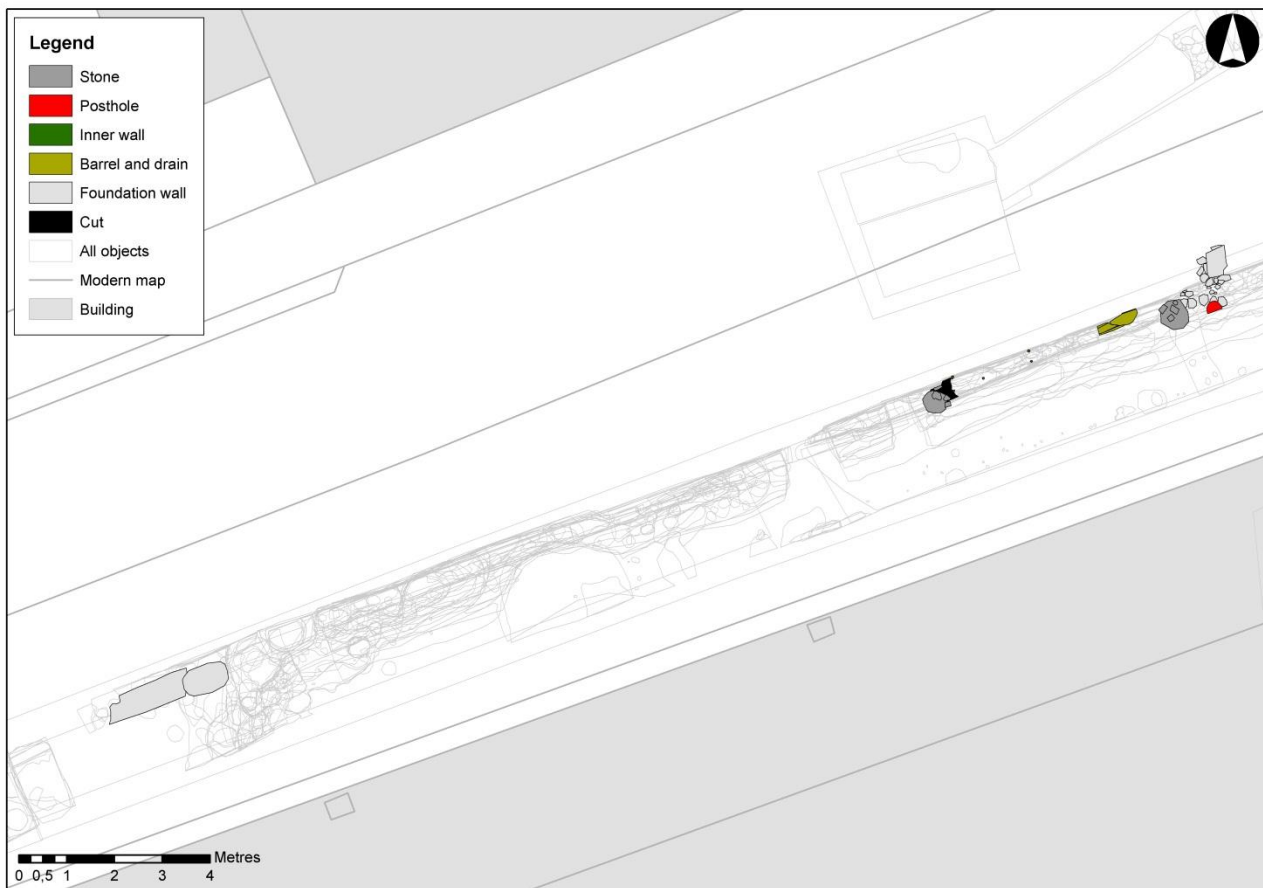


Fig. 279. Building G-207 represented by stones and barrel with drainage. To the east foundation wall represents G-692.

Firm deposit (SD14182) with stones (SS59819, SS59833 and SS59847) could represent an external hard standing to the west of the building with associated stake (ST59878). Firm clay deposit (SD59542) with frequent inclusions of CBM was interpreted as a floor layer.

SG-437 represents the usage phase of building G-207. It consists of three activity layers, two stakeholes which may represent alterations to the inner wall SG-219 (see above), a barrel and a drainage. The amount and types of finds and the thickness of the lowest layer (SD13586) could suggest that this was not a domestic property. The mid layer (SD59610) contained a lot of iron discolouration, and so this could indicate some iron working nearby. But there were no indications of iron working or smithing activities in other layers connected to this building and its demolition. But the upper layer (SD59579) was very mottled, and could indicate a lot of foot traffic, which could support a theory of the building being a street front shop or workshop. Analysis of layer (P59609) confirms the interpretation as a floor layer. Part of the usage phase was also a wooden barrel and a wooden drainage. These possibly could be included in

the construction phase. The vertical barrel was decayed and some of the material had become mixed in the surrounding backfill of dark brownish grey silty sand. The barrel was only visible as a faint outline and the flat base of the construction cut was unclear, clearly visible the on western side of the barrel, but the east side of the barrel was right up against the cut (Fig. 280). Horizontal wooden structure (ST13729) had been used as a drainage half pipe running NE-SW, leading water into the barrel. The inside of the hollowed structure contained clay deposit (SD13723) showing evidence of flowing water. The fill in the barrel contained fragments of roof tiles. It could have been a sump used to drain water from the floor in the building or perhaps was connected to a smithy or some other kind of work area.



Fig. 280. Pre-excavation. Barrel with backfill of roof tiles (SD59240), facing north. Photo: Museum of Copenhagen.

Was the building torn down when the street was made wider? Could it be one of the King's booths (Kongens boder)? See discussion at the end of this chapter. A street level (SD25883) was found a few metres away in Lille Kongensgade and there was about half a metre in height difference between the upper surface of the street and the floor layers in the building.

G-692 represents an interpreted wall foundation seen in a watching brief trench. It comprised three layers of stones in overlapping areas, interleaved with two episodes of deposits interpreted as mixed levelling or dump layers which may have acted as backfill within the stone foundations (Fig. 281).

The contexts were dug in two separate phases, and so the association was not made on site. It is possible that these contexts represent two or three phases of wall construction or renovation, rather than one coherent episode. The nature of the excavation meant that not much of the material was exposed in the trench, and so this suggestion is uncertain.



Fig. 281. G-692. Stones (SS59025) in foundation, facing north. Photo: Museum of Copenhagen.

G-204 is a part of a former building consisting of a levelling layer, clay floor and a big boulder. The floor (SD52082) consisted of yellow clay (0.10-0.15 m thick). On the top of the deposit CBM was documented, but otherwise it seemed to be quite "clean". The boulder to the east might indicate an outer wall and the stones to the west could represent an inner wall.

The building could represent structure G-205 to the west (at a lower level), or it could be part of the same structure with G-205 being part of a cellar (see Chapter 17.1.1), although there are no stratigraphical links between the two buildings therefore it remains uncertain.

19.1.4 Other building activities

G-500774 is not defined as an actual building, and even though it contains elements of construction it is interpreted as a short term activity (Fig. 282).

G-500774 represents different elements. The construction consisted of two very thin "leveling" layers and a subcircular posthole, and the usage phase was a white limestone layer (SD156723) surrounding a big boulder, which could have derived from mortar production, and layer (SD156963) which was a lime deposit related to mortar production. Due to the sparseness of these deposits and their truncation, any definite interpretation is impossible, but this general activity could relate to some surrounding construction, and due to its size it possibly has to do with the fortification or a larger nearby building.



Fig. 282. Activity G-500774 with posthole and usage layer (SD156723), facing north. Photo: Museum of Copenhagen.

19.1.5 Street and pavements

Quite a few features in this time phase have been registered as road or street layers. The most dominating one being the rampart street just behind the fortification. In Lille Kongensgade road layers also exist and confirm to some extent the route of the present road.

The rampart street G-311764 consisted of SG-605 and SG-864 (Fig. 283). These were most likely street layers that were established after the demolition of the city wall in the 17th century. The area probably had not been very easy to move around, and some roads to guide the traffic were needed. Part of the area was also-called Hallandsåsen after its characteristics which indicate that the area was left almost untouched after the demolition of the fortification.

Street surface SG-605 consisted of a 0.02 m thick uniform deposit of light white sandy mortar. Related with this surface three levelling deposits were recorded consisting of mixed demolition material (from the former city wall?) together with mottled silty sand with inclusions of CBM and stones. SG-864 was a cobbled surface laid as preparation for a street surface. SG-864 was placed northeast of G-311764. But it does represent an idea of how to get around the area after the demolition of the fortification.

The rampart street G-311764 is dated to the 17th century based on the finds and was established after building G-580 was demolished (Chapter 17.1.1). This must indicate that this building was demolished at the same time as or before the Post medieval fortification. It was also later than street surface G-490 (Chapter 17.1.4), whose relationship to building G-580 is uncertain.



Fig. 283. Rampart street layers G-311764 and street surface layers G-500877 and G-500878. Note that street layer G-311764 is dated after the demolition of the fortification.

G-245 (trench in Lille Kongensgade, north of subarea phase 6) represents a street level consisting of stones with a sandy layer beneath. The sandy layer was a levelling layer that made it possible to lay the stones with their flat surface up. Below the sandy layer was a levelling layer, but it was not measured. The overlying organic layer was interpreted as the activity layer associated with the street. There were no similarly constructed street surfaces in the surrounding area, and the dating is uncertain, but it could represent the course of the older phase of Lille Kongensgade (see above).

Pavement G-261 in subarea phase 6 had an uneven surface (Fig. 284). However, the stones were well laid and formed a compacted surface overall, with their flattest faces exposed. Some of the stones seemed to have been heated affected. This surface might also have been part of a courtyard where some kind of production had taken place.



Fig. 284. G-261. Part of pavement, facing NW. Photo: Museum of Copenhagen.

Street surface G-500878 was a deposit of broken brick fragments and stones likely to have formed an old street surface, or possibly a yard surface. Its surface, while well defined, was somewhat undulating and would not have been a completely level surface. It was not found to extend further east out of the trench. At some point it was cut by NW-SE drainage ditch SG-500877 (see paragraph on drainage ditches below). It was not securely dated, but was probably Late medieval.

G-500881 represents an episode of dumping of organic, domestic waste containing a moderate amount of animal bone. While on site this was thought to be possibly Late medieval, but the dating of the ceramics suggests 17th–18th century. It was also thought to be an activity layer over a street, but its extent and makeup is more indicative of an episode of dumping. Possibly this was deposited to deconstruct or cancel the street surface G-500878 underneath.

19.1.6 Pits

Pits are a dominant feature in this phase, like in most of the other phases. Pits have been used for multiple reasons; for garbage, production, drainage, etc. The functions of a lot of the pits are no longer known, but a few can be relatively easily identified by sampling or from stratigraphic relationships.

Pits G-218 were situated within a small area just by the corner of Hviids Vinstue and seemed to be part of a structure or activity, perhaps used just for a short while. They were probably rapidly filled and one of the fills was organic and smelled strongly of rotting material. They occurred at the same stratigraphic level as five other pits; G-286, G-361, G-362, G-400 and G-401, so they could all be broadly contemporary. East and north of the pits there were also postholes G-398 and G-405 that could be seen as defining some sort of original boundary for the "pit-area" (Fig. 285).



Fig. 285. So-called “pit area” south of the current Hviids Vinstue.

G-351 was a subrectangular pit with steep sides and a flat base. It occurred at the same stratigraphic level as pit G-215 which was located directly east of G-351, so perhaps together they could have formed a property boundary. G-224 represents a row of three vertical stakes running N-S forming a short fence line.

Pits G-427, G-282 and G-247 seemed to respect the edge of the stratigraphically older boundary ditch G-310. This could support the idea that an older boundary ditch was renewed and kept for quite some time. G-310 is one of the oldest features in the area. At the same time stakeholes G-500946 were recorded at the same stratigraphically level as G-427 and G-247 which might indicate some adjustments in the layout of the area.

Another example of land use in the area is building G-580 which was constructed sometime in the High or Late medieval period (Phase 5) just west of the rampart belonging to the fortification. Just east of the building was a larger area of pits (G-502970), that is likely to belong to the time phase of when building G-580 and the medieval rampart were still in use. Pit group G-502970 most likely represents the use of the area in the medieval and Post medieval periods. Some pits are stratigraphically below some of the layers belonging to the building, but it is likely that the building had been expanded and/or rebuilt at some point.

The pits were filled with what can be characterized as household waste. The finds are primarily animal bones, ceramics, a leather shoe, CBM and clay pipes. There are no indications of production waste of any kind.

G-259 was an irregular pit in phase 6, recut by two later truncations. This originally was interpreted to be a shallow clay-lined pit, but later re-interpreted as an ordinary pit (= no clear clay lining and inclusions of CBM in the usage layer). Near the base of the primary fill (SD54854) three stones were revealed at the western end – one was elongated

and sat vertically in the fill. It could not be clarified whether these stones were there coincidentally or if they were placed in the cut. The secondary backfill (SD54365) consisted of mixed greyish brown silty clay with inclusions of charcoal, wood, CBM, pebbles and stones.

19.1.7 Post- and stakeholes

The pit G-259 appeared to be on the same stratigraphic level as a line of circular stakeholes G-220, perhaps representing a change in use of the area. G-257 represents a posthole with the decayed remains of a post in situ. It could be associated with the line of stakes G-220 to the west to form a structure. It seemed as though both this posthole and the stake line were deliberately destroyed, as there were no stakes within the stakeholes, and the upper fills of this posthole consisted of dumped material. The decayed remains of the post within the hole could suggest that the structure was long-lived, and could have been taken down when it was in a poor state of repair. The features could be connected to buildings G-204 and G-207 situated on either side of the structure.

There are quite a lot of postholes in this time phase that cannot be linked to other postholes or groups in order to make out larger structures. As mentioned in the introduction to this phase the conditions around Hviids Vinstue in subarea phase 2+3 made it difficult to make any stratigraphic links between the separate excavation areas. This has resulted in a large amount of separate groups that contain only one posthole. They will not be described here, but their descriptions can be found under Appendix 10.

Also stakes were scattered around the area in this time phase without any significant relationship to other groups. Stakes are often used in minor structures or for marking an area. The amount of stakes in this area could also indicate that they had been frequently used in the reinforcement of existing structures or as stabilizing of areas. Only some of the stakes, those that form a structure or are part of a structure will be described here; for instance G-500948 (subarea phase 2+3) which represents an isolated diagonal stake between a series of dump and levelling layers.

Postholes G-502294 are likely to be part of building/wall foundations G-235 – perhaps an internal structure, with a length of 0.35 m (cf. Fig. 277). The excavation conditions made it difficult to be certain about this. Posthole SG-774 was a substantial posthole with a minimum depth of approximately 0.45 m and a surface diameter of approximately 0.26 m. The backfill was homogeneous, dark, bluish grey sand and contained several subangular flint stones between 0.04 m and 0.08 m in diameter. These may have served as packing stones for a timber post. The rest of the fill was probably the result of the silting up of the posthole cut rather than the result of the post decaying in situ within this cut.

Posthole SG-775 was a shallow posthole inclined towards the northwest. It appeared to have held a slender post with a tapered and moderately sharp point. No evidence of an in situ post was uncovered suggesting it was deliberately removed prior to the silting up of the cut. The posthole had a diameter of 0.12 m at the surface and a maximum depth of approximately 0.17 m. The backfill consisted of homogeneous mid yellowish green sand.

G-502294 with SG-774 and SG-775 lies at the same stratigraphic level as wall G-235, pit G-500873 and drainage ditch G-342.

19.1.8 Ditches and a water pipe

SG-500877 represents a shallow NW-SE orientated drainage ditch which appeared to have been cut through street surface (SD30725) (see Fig. 283 above). The concave ditch was 2.13 m long, 0.55 m wide and reached a depth of 0.17 m. The backfill appeared to be re-deposited natural sand with no finds, very yellow in colour, suggesting that this deposit was used to backfill the drainage after use, rather than being built up during its usage as a drainage.

No dating evidence was recovered. It is interesting that the drainage ditch should occur in the middle of a surface rather than at either side of it as usually happens – perhaps this indicates a change of use from one side of the ditch to the other. It is also interesting to note that while this ditch was not seen to extend southeast into another excavation

area, it did however exactly align with a wheel rut seen in street surface SD117076 in SG-253 which occurred c. 0.90 m lower down, and was one of the earliest street surfaces recorded. This could demonstrate continuity in street orientation in this area, potentially over several hundred years.

Ditch G-234 consisted of cut (SC59225) and two fills (SD59239 and SD202597) of a N-S linear subrectangular cut, associated with the cut (SC59287) and fill (SD59298) of a subcircular posthole c. 0.4 m SW of the linear feature. The ditch had straight/steep sides and an irregular base at a depth of 0.28 m. The fills consisted of brownish red/grey clay with inclusions of charcoal, pebbles, stones and bricks.

The ditch and posthole have been grouped together as they were both cut from the same stratigraphic level, and could represent either a ditch and fence boundary, or part of a robbed out construction. The bricks in deposit (SD202597) in the base of the linear cut could represent the remains of a partially robbed foundation layer, or it could just be demolition material used to fill up a ditch. The high level of truncations in the area makes further interpretation difficult, but stratigraphically it is one of the youngest activities in the area.

Ditch G-436 represents a feature which was probably a cut, although there were doubts due to the nature of the material and its deposition. It ran parallel to the street of Lille Kongensgade (NE-SW) and so could represent a drainage ditch, a boundary, or both. It is possible that some or all of the fills actually relate to the usage of the feature rather than its deconstruction, but they were difficult to separate.

Water pipes G-320 in area phase 5B-1, phase 5B-2 and phase 45B is part of a 17th century water pipes of pine (Fig. 286 and 287). The thin water pipe had an external diameter that varied from 0.14 m to 0.32 m. The internal diameter was approximately 0.10 m. At least one joint was documented with traces of tool marks. The width of the sharp construction cut varied from 0.30-0.35 m to 0.75 m at the most. Depth was as much as 1.4 m in some places. A clear variation could be seen in the mottled and reused backfill with different compositions, colour and inclusions of charcoal, pebbles, stones and CBM. Finds in the backfill consist of ceramics (Late redware, Jydepot and Porcelain), iron nails, a possible mould, rib brick and bones (cat, cattle, pig, sheep, sheep/goat, domestic goose and unspecified).



Fig. 286. Water pipe G-320.

Dendrochronological analysis dates the trees used in the pipeline to 1613 AD and the wood is imported either from Gotland or/and Åland (Linderson 2012).



Fig. 287. Exposed water pipe (ST90718), facing north. Photo: Museum of Copenhagen.

19.1.9 Barrel and wooden box

A circular barrel G-212 ($d = 0.86$ m) was excavated within a subrectangular pit in subarea phase 6 (Fig. 288). Vertical timbers survived up to 0.23 m from the base. The circular wooden base was in good condition, whereas the upper parts of the barrel survived as a brown degraded stain. Approximately 24 upright wooden staves were recorded where the base consisted of five wooden planks. The average height of the uprights was 0.09 m. Six pieces of wood were wrapped around the barrel (hoops) for strength. These were 0.02 m in width and were flat on the barrel side and semicircular on the external face. A plank ran under the base for strength and was attached to the main barrel by a number of wooden pegs that were placed in peg holes in the upright/vertical timbers.



Fig. 288. Exposed barrel (ST52344 in G-212) from above. Photo: Museum of Copenhagen.

The barrel had been placed in the ground for specific reasons. Care was taken to place firm blue clay around it to make it watertight and the bottom fill of lensed, dark grey sand (S52267) could have been deposited from water. It is likely that the barrel had to remain water tight and was not used for drainage. A construction like this could belong to smithing activities? There are minor indications that building G-207, close both in spatial and stratigraphic relations, carries evidence of some sort of possible smithing/iron working activity (see above). The fills SD52204 and SD52230 represented the deconstruction phase of the barrel, G-212 consisting, of mixed material and a large amount of CBM.

The barrel was excavated in close proximity to stakes G-220 and pits G-259, but was a later feature than these and must represent a new use of the area.

A large granite stone/padstone G-256 was pushed down into a pit and later covered with mixed material. The base of the stone was very eroded (rough) and flat. It had a smooth top surface perhaps with some kind of marks from the use of the surface. Barrel G-212 was excavated nearby, which is the reason why this stone might be interpreted as part of a smithy.

Cutting context SC52403 was made to hold wooden panels forming a wooden box G-694 with a sub floor space. The timber consisted of horizontally and vertically set planks. The bottom was made of sticks and there were two small planks in the middle to divide it. The cut was almost exactly the same shape as the timber structure, except at the west end, where the cut was more rounded (Fig. 289).



Fig. 289. Wooden box (ST52248; G-694), facing north. Photo: Museum of Copenhagen.

The box had most likely been used for storage/cold storage and it would most likely also have had a wooden lid for easy access. The box is stratigraphically younger than building G-207 and does not seem to have any relation to this building.

19.1.10 Activity, dump and levelling layers

These layers are all layers that cannot be connected to specific features or e.g. demolition layers. They are recorded as separate groups, and for some of the layers it is possible to interpret their function. Most of them are likely to be levelling layers to form a ground surface before building houses, streets, etc. They could also have been used for sealing features after demolition and before new constructions such as houses were made on the spot.

Activity layers are layers that for different reasons carry evidence of human or animal activity in the form of waste, trampled surface, etc. Activity layers can also be built up in areas of action or movement – for instance along a street or near workshops.

Some of the layers in this section are, if relevant, mentioned under the descriptions of other features in the time phase.

19.2 Overall discussion and interpretation

In the Post medieval period there is settlement both inside and outside the fortification, and in this chapter only the settlement inside the fortification has been described.

There is proof of at least one predecessor to the current building Hviids Vinstue (G-214). The boulders in the foundation of building were of a size that could suggest reuse of boulders from the medieval or Post medieval fortification. This would make perfect sense and could date the building to some time after demolition of the

fortification. To the west of Hviids Vinstue traces of a wooden structure (G-238) indicate the use of scaffolding in connection with the erection of one of the buildings on the corner of Lille Kongensgade and Kongens Nytorv. This goes to show that the location of the building block of which Hviids Vinstue is a part previous, has been permanent since the 16th century. Also another building (G-442) staggered from the current façade, indicates continuous placement of buildings in this block.

A stable building (G-223) was excavated to the west of Lille Kongensgade. Based on the archaeological interpretation it appears as if street surface (G-228) with wheel ruts continued straight into the building which most likely was of a more simple construction. Both horses and other domestic animals have lived inside the fortification alongside humans, and in this case stables for horses would have been needed for people travelling to Copenhagen either on horseback or by carriage. By having a road leading straight into the building suggests a more organized and public stable for travellers – perhaps for temporarily housing horses or for changing tired horses.

The King's booths in Lille Kongensgade are most likely originally to have been high quality brick structures and this is probably one of the reasons why some of the buildings still remained in the 1930s before they were torn down. The buildings that were still remaining in the 20th century must have been rebuilt/restored on more than one occasion. The excavations in Lille Kongensgade revealed remains of up to three buildings (G-204, G-207 and G-692) that stratigraphically belong in the latest historical phase before present time. This corresponds well with the fact that – at least for some of them – these represent remains of buildings torn down only some 90 years ago. The dating of finds also puts the remains in the range of the Post medieval period. The best preserved building (G-207) could indicate a function as some kind of workshop. A barrel was set in the floor and adjoined with a wooden drainage. There was no indication of which kind of work had been carried out. It could also have had the function of a shop front at the same time. This would be very likely in this urban setting of booths along the street with different functions and inhabitants.

Just southeast of Lille Kongensgade a work area with traces of mortar production was recorded (G-500774). This could have been a smaller local production site, because large scale production probably would take up a lot of space. This production area was placed near the site of the medieval forge building (G-660) and indicates a production industrial area in this part of the city – also confirmed in the fact that no other definite domestic evidence exists from this area.

The streets from this period confirm the already existing curves of Lille Kongensgade.

20 Phase 7b Outside the moat. Settlement and activities 1550–1650 AD

20.1 Results

The remains from Phase 7b include different types of structures such as buildings, intermediate street or courtyard (timber structure), roads and wheel ruts, fences and stakeholes, pits, ditches and different surfaces (Fig. 290 and Tab. 45). Besides stratigraphical observations some of the deposits or features have been grouped in this time phase based on datable finds. The number of groups for this time phase is striking, and some of these could for practical reasons have been merged, but have nonetheless been retained for various reasons. Most of the section dealing with building No. 1 (G-790), its construction, usage and deconstruction phases, is based on text written by Rachel Morgan during post-excavation grouping work. After the overall description the features are placed in their structural and historical context.

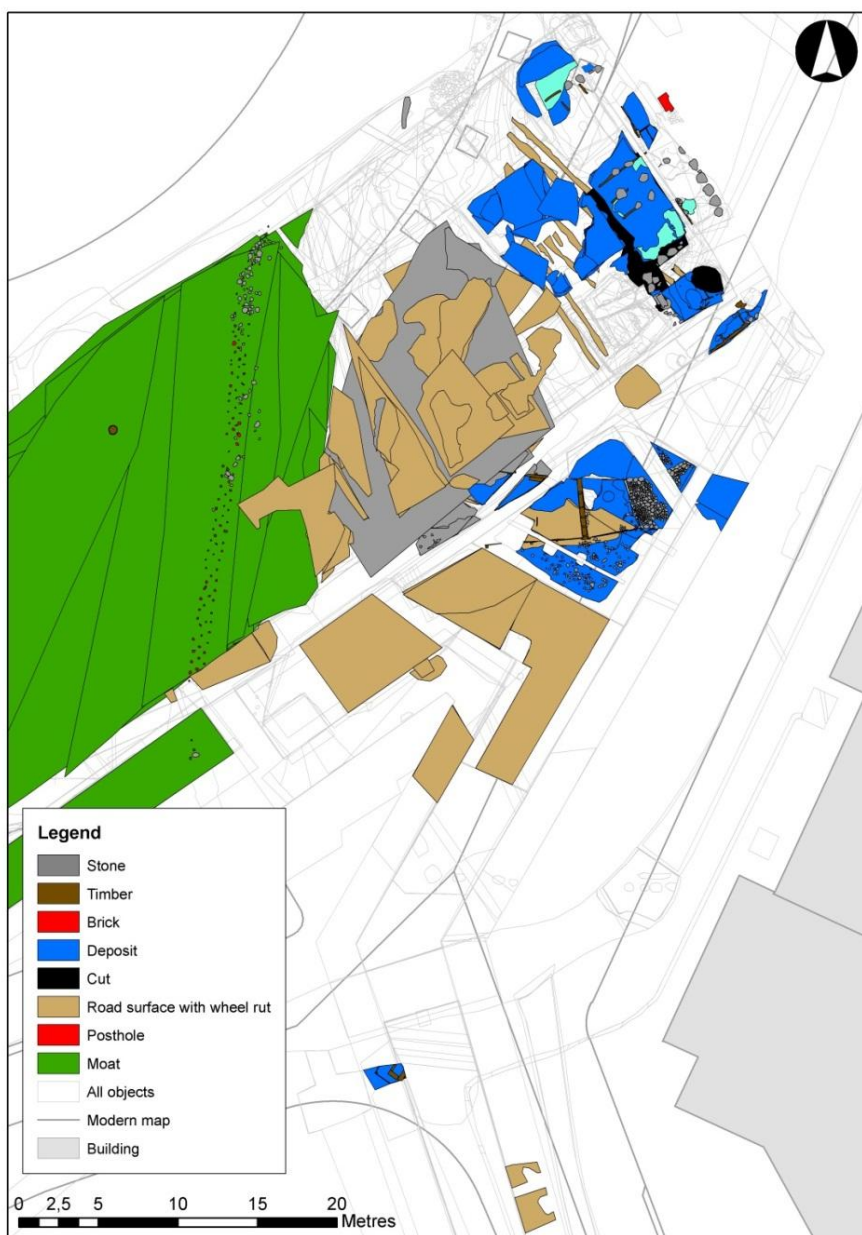


Fig. 290. Buildings, intermediate street/courtyard and road surfaces outside the 17th century moat.

Group/subgroup	Type of feature	Subarea	Basic interpretation
790	Different types of features; see subgroups for further information	Station Box	Building
784	Cut, deposits, stones and timber	Station Box	Stone structure. Part of G-790?
891	Cuts, deposits and stones/bricks	Station Box	Brick wall. Part of G-790?
892	Deposits, stones/bricks and timber	Station Box	External surface. Part of G-790?
896	Deposits and bricks	Station Box	Levelling layers. Part and construction of G-790.
905	Deposits	Station Box	External surface. Part and construction of G-790.
996	Cut, stones and deposit	Station Box	Foundation. Part of G-790?
796	Cuts, deposits, stones/bricks and timbers	Station Box	Building
866	Deposits and timbers	Station Box	Timber structure
503858	Stones, timbers and deposits	Guide wall and Bitrappe	Timber structure
504256	Cuts and fills	Bitrappe	Pit and postholes. Part of G-503858?
504251	Cuts and fills	Bitrappe	Pits. Part of G-503858?
504245	Timber	Bitrappe	Beam. Part of G-503858?
504246	Cut, deposits and timbers	Guide wall	Timber structure
504243	Stones and deposits	Guide wall	Building
855	Bricks	Station Box	Culvert
925	Deposits	Station Box	Floor/external surface
927	Deposits	Station Box	External surface
928	Deposits	Station Box	Levelling layers
931	Deposits	Station Box	Pavement
962	Deposits	Station Box	External surface
504244	Bricks and deposit	Guide wall	Brick wall
504250	Deposits	Bitrappe	Levelling layers
781	Stones, pebbles and deposits	Station Box	Road surface
798	Stones, pebbles and deposits	Station Box	Road surface
802	Deposit	Station Box	Road surface
919	Deposits	Station Box	Road surface
240079	Stones and deposit	Station Box	Road surface
240086	Deposits	Station Box	Road surface
240087	Cut and deposits	Station Box	Road surface
503798	Deposit	Station Box	Road surface
503803	Deposits	Station Box	Road surface
503805	Deposit	Station Box	Road surface
504260	Deposits	Guide wall	Road surface
504261	Deposits	Guide wall	Road surface
504262	Deposits	Bitrappe	Road surface
950	Deposits	Station Box	Wheel ruts
951	Cut and deposits	Station Box	Wheel ruts
918	Cut and deposit	Station Box	Wheel rut
806	Timber	Station Box	Single post
841	Timbers	Station Box	Posts
894	Deposit	Station Box	Posthole
895	Deposits	Station Box	External surface
240111	Cut and fill	Station Box	Posthole
503800	Timber	Station Box	Post

937	Timbers	Station Box	Fence
995	Timbers	Station Box	Stake line
787	Cut, bricks/stone, fills and wood	Station Box	Pit
819	Cut and fill	Station Box	Pit
795	Cut and fill	Station Box	Pit
800	Cut and fill	Station Box	Pit
867	Cut and fills	Station Box	Pit
906	Cut and fill	Station Box	Pit
910	Cut and fill	Station Box	Pit
917	Cut and fill	Station Box	Pit
921	Cut and fill	Station Box	Pit
922	Cut and fill	Station Box	Pit
924	Cut and fill	Station Box	Pit
929	Cut and fill	Station Box	Pit
941	Cut and fill	Station Box	Pit
942	Cut and fill	Station Box	Pit
944	Cut and fill	Station Box	Pit
952	Cut and fills	Station Box	Pit
953	Cut and fill	Station Box	Pit
955	Cut and fills	Station Box	Pit
240093	Cut and fill	Station Box	Pit
240094	Cut and fill	Station Box	Pit
240098	Cut and fill	Station Box	Pit
240105	Cut and fill	Station Box	Pit
240107	Cut and fill	Station Box	Pit
500888	Cuts and fills	Station Box	Pit
504247	Cuts and fills	Bitrappel	Pits
504248	Cuts and fills	Bitrappel	Pits
899	Cut and fills	Station Box	Ditch
939	Cut and fills	Station Box	Ditch
940	Cut, fill and stone	Station Box	Boulder
945	Cut and fill	Station Box	Ditch
948	Cut and fill	Station Box	Ditch
949	Cut and fill	Station Box	Ditch
240157	Cut and fill	Station Box	Ditch
954	Cut and fill	Station Box	Gully

Tab. 45. Late medieval and Renaissance features at Kongens Nytorv outside the 17th century moat.

20.1.1 Buildings and stone structures

20.1.1.1 Building No. 1

Construction:

Phase 1 represents several subgroups with different building phases and contexts (Fig. 291).

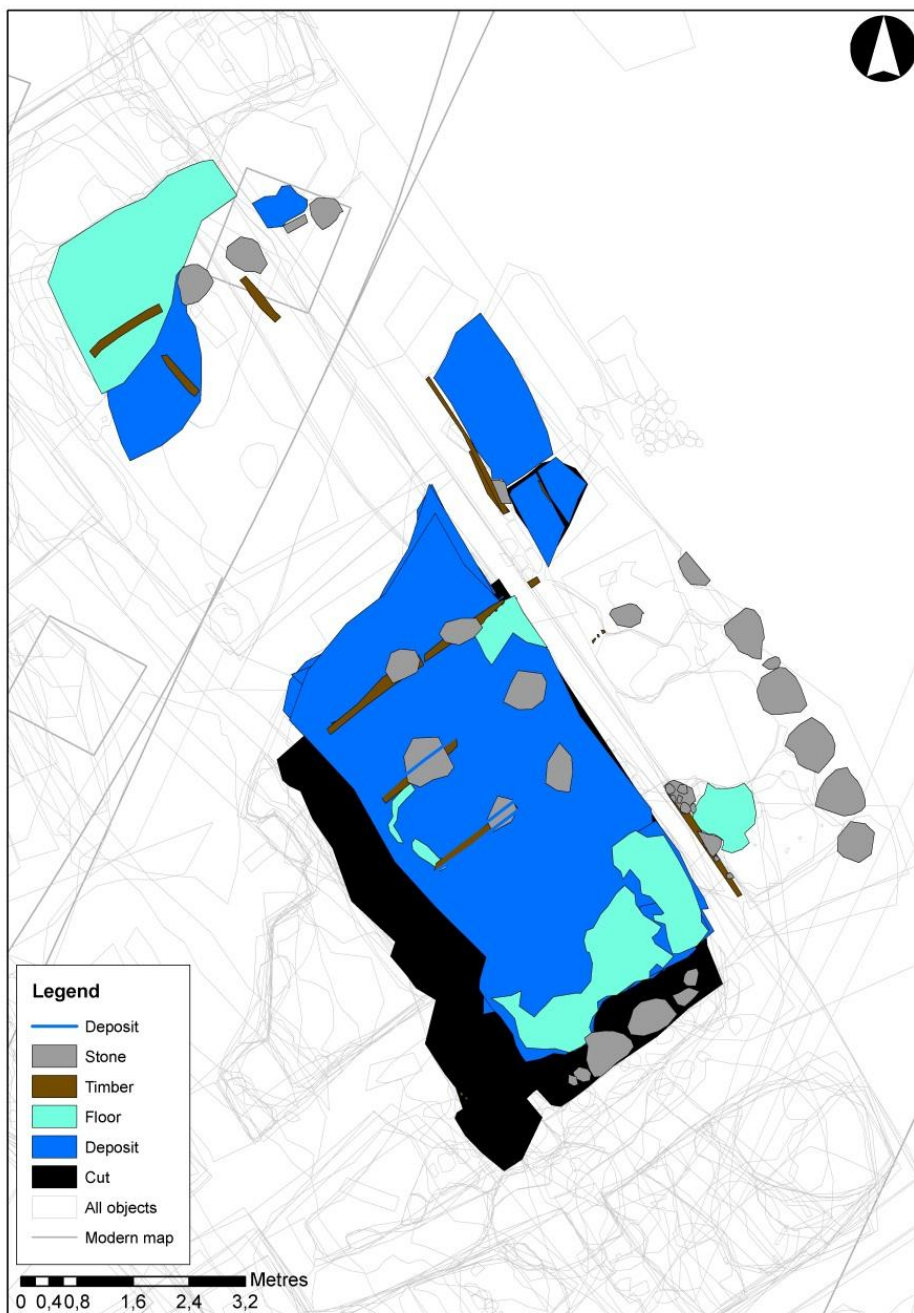


Fig. 291. Contexts belonging to the construction phase of building No. 1 including construction cut, foundation stone with sill beams, postholes, stakeholes and (chalk)floors. Initial floor layer SG-882 can be seen in the middle of the building, internal walls (SG-875) as foundation stones and timbers, ST168309 and ST169356 as two NW-SE orientated sill beams to the right. Posthole and cut) SG-881 is not visible on the figure.

The structure was built in a full length and width cut instead of in wall foundation trenches, with the cuts SC169346, SC182468 and SC227329 forming the rectangular foundation cut. The outer wall consisted of a continuous stone foundation made from unfinished boulders (SG-886) of at least two courses, although only the lowest course remained during excavation, with the upper course(s) having been robbed out (Fig. 292).



Fig. 292. Foundation stones SS182564 in SG-886, facing NE. Photo: Museum of Copenhagen.

The four extant internal timber sill walls rested on foundations of boulders which were spaced at intervals of c. 0.5 m to 1.0 m along the sill beams. The internal area created by the stone foundations was backfilled with deposits, which consisted of the re-deposition of dump material taken from the foundation cut, in order to create a solid foundation upon which the overlying floor layers were laid. Stakes (SG-909) and posthole (SG-881) have been interpreted as connected with the construction of the building, but in an unknown context.

Post (SG-881) could be associated with the construction of the building as it was associated with the first floor layer (SG-882), although its position between two closely spaced internal walls would mean that its use was short-lived. Otherwise there was no obvious function for this post.

SG-882 represents the initial floor layer in the middle of the building, and its associated usage layer. The amount of iron panning within the usage layer has led to the suggestion that there was some secondary metalworking activity taking place over the floor; e.g. grinding. This floor layer was not clean clay, which could indicate that this area was always going to be a “working” area and so did not warrant the clean, green clays seen in the floors to the north and south.

The external walls were robbed out and so the details of their construction are unknown, however the amount of red brick in the foundation backfill and the overlying demolition material seems to indicate that red brick could have formed part of the walls.

Three extant internal walls (SG-875) were aligned NE-SW and were constructed from sill beams ST185703, ST185383 and ST185351, placed directly on the internal lines of boulders. Each beam had a vertical row of stakes above; ST238273 and ST184476 (= ST168930), spaced c. 0.08 m apart, with no obvious joints or fixings to the beam, but both the stakes and the sill beams were quite degraded. There was no evidence of wattling, or any other internal structure. Clay (SD184033) was packed around the stakes forming the body of the walls. There was evidence of render on most sides of the clay walls down to the sill beams, but this was also highly degraded and did not cover the entire surface of the walls. There was evidence of NW-SE sill beams; ST168309 and ST169356, forming another internal wall which would have abutted the NE-SW walls at their eastern end. There was no superstructure remaining above these beams.

The sill beams appeared to create three rooms on the west side of the building, possibly joined by a corridor along the eastern side measuring c. 1.6 m across. The southern room was the largest measuring c. 3.23 m NW-SE, with two smaller rooms or alcoves in the middle of the building with a NW-SE width of 1.07 m. To the north of these was a larger room again, but modern truncation had destroyed the relationship this area had with the area of the house which was furthest north (Fig. 291). It is possible they represent one large room, but there could have been further internal wall divisions – there was a short line of foundation stones SS184536 and SS169675, which would suggest at least one further room division at the very north of the building, giving a small room, alcove, or corridor with an approximate NW-SE width of 1.2-1.5 m.

The southernmost room had an initial chalk floor (SD181796) which was badly preserved, but appeared to have a very small usage layer on top of it (Fig. 293). This could, however, have been trample from the building construction.



Fig. 293. Chalk floor layer (SD181796), facing west. Photo: Museum of Copenhagen.

Above this layer was a much thicker and cleaner chalk floor (SG-874) which probably represented the first proper floor layer in this room. Above this was a thick, hard deposit of clean, green clay (SD181446) = (SD227252) which contained eleven imprints (SG-873) which were thought to represent furniture, but which were in no discernible pattern.

These two floor layers (SG-874) represent a probable re-flooring of the southern room of the building (Fig. 294). They covered a very dirty, truncated chalk layer, so it is presumed that this layer had been worn away, and then probably cut away in some areas in order to lay the cleaner, thicker chalk layer and the clay corner. It has been suggested that the clay deposit could represent a different function occurring on that part of the floor, although it could represent a previous floor surface which was not totally removed before the light white and clean chalk/lime surface (SD181552) was laid.



Fig. 294. Floor surface SD181552 and hard clean clay SD181615 (SG-874), facing north. Photo: Museum of Copenhagen.

There were no clear indications of the types of activity which took place on the surface, but the surface of both the chalk and clay were very clean, so they may not have been used for long.

All the other rooms appeared to have very compact, clean clay floors as their initial surfaces (SG-882, SD182967, SD184648, SD185280 and possibly SD169376), placed directly over the foundation layers around the foundation stones (SG-886). Clay floor (SD185280) in the room to the north of the “alcoves” had a very thin overlying usage layer and associated imprints (SG-876), which again could indicate furniture.

There also appeared to be a doorway, (SG-879), lying c. 1.75 m from the approximate line of the western external wall, creating an entrance from this room to the northernmost alcove. Some intact features which could be a door

jamb and hinges or door furniture were recorded. This opening was filled with clay at some point (but not with the internal stakes or render found in the rest of the walls) in order to block the doorway and create a smooth wall.

Usage:

There appears to have been four or five phases of use or renovation of the building, mostly evidenced by episodes of re-flooring.

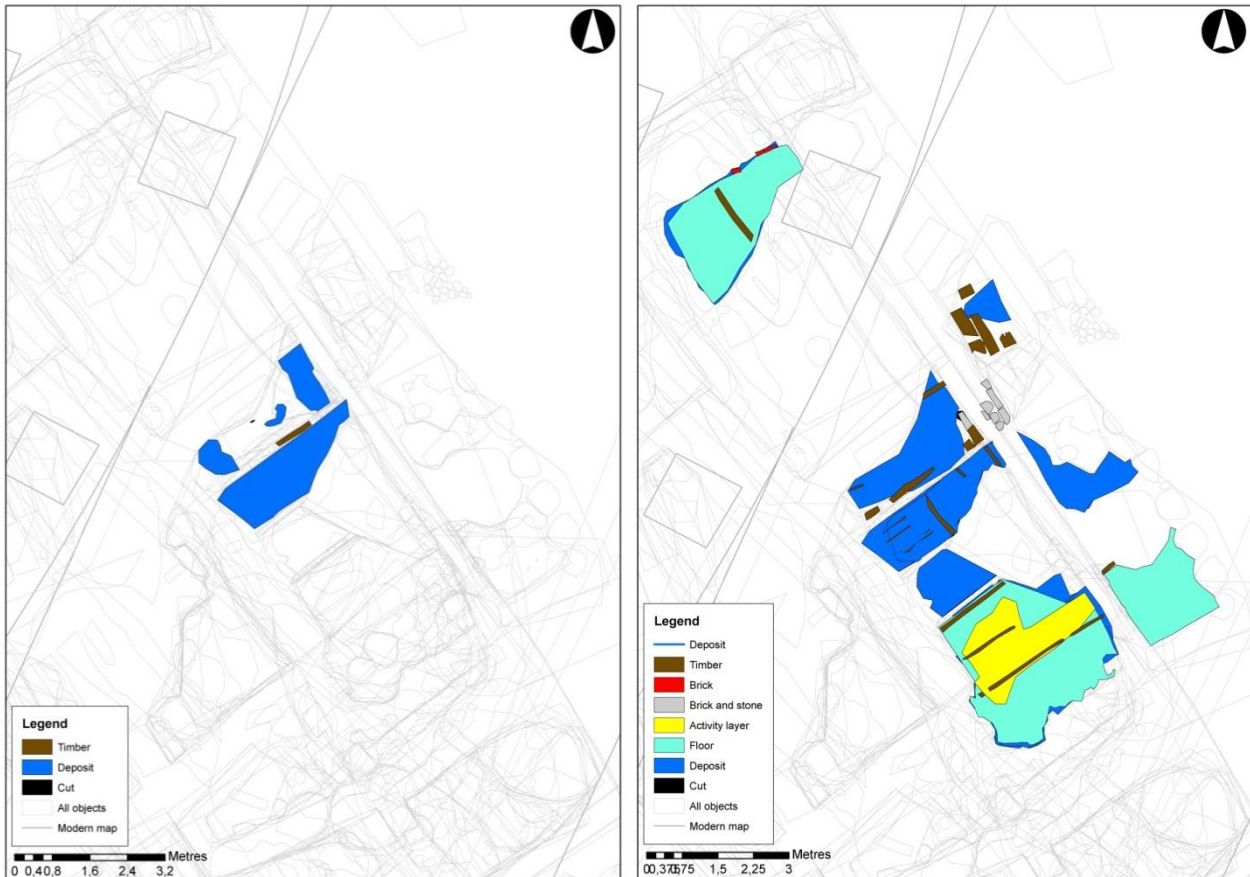


Fig. 295a and 295b. Contexts belonging to the usage phase (a) and the alternation phase (b) of building No. 1 consisting of sill beams, clay floors and new interpreted doorway (SG-877) in the middle.

Phase 1 consisted of a chalk floor (SG-874) and the re-flooring of both the north and south alcoves with (SG-883) and (SG-885), both of which also contained an associated usage layer (Fig. 295a and 295b). Apart from some iron panning in these layers there was nothing to suggest what these “alcoves” could have been used for.

Subgroup (SG-885) represented an initial episode of re-flooring or use between two clay walls (Fig. 295a). Cut (SC183441) represented a recut into a pre-existing floor layer to facilitate new equipment or function within the housing structure. The fills within this recut were all very sterile and show no clear indication of function or purpose.

Phase 2 consisted of the clay floors (SD181446) = (SD227252) and imprints (SG-873) with an associated activity layer that had two interconnected pits dug through it (SG-871) (Fig. 296). The purpose of these pits was unclear, with no lining, burning, or evidence of in-situ activity, but they may represent some kind of industry taking place at the back of the building.



Fig. 296. Section through floor layer (SD181446), facing north. Photo: Museum of Copenhagen.

The remainder of the building also had new clay floors: the southern alcove was re-floored with (SG-888) (possibly multiple episodes of re-flooring), the northern alcove with (SG-884) (including their associated use layers), and the northern area of the building with clay floor (SD182943). The room to the north of the alcoves did not appear to have a new overlying clay floor at this stage (Fig. 295b).

Phase 3 represents the transition to wooden floors. At the northern end of the building this renovation consisted of a short row of bricks (SS182922) alongside the inner edge of what would have been the northern external wall, below a clay floor (SD182762), which then had the impression of a wooden beam (ST182666) on it (Fig. 295b). The bricks could have been placed here in order to reinforce the floor area if it was to be exposed to heavy wear (e.g. from an entrance), or to bear weight (e.g. from heavy furniture), although neither of these possibilities were evident during excavation. The clay floor (SD182762) could have been a floor in its own right, or the base for the wooden floor indicated by plank impression (SC182666). In the northern alcove, SG-870 and SG-869 represent beam impressions and a deconstructed posthole respectively, over the deliberate backfilling. It is unclear precisely what the posthole represents – it could be an alteration or repair to the wall just to the north – but it was contemporary with the beam imprints. This shows a major renovation of this area of the building from clay to wooden floors, and the raising of the floor by c. 15 cm depending on the thickness of the floor beams. Beam imprints (SG-880) in the room to the north of the alcove, also indicate that this room underwent a similar renovation, but without the additional raising of the floor by using a dump layer.

Phase 4 represents the second phase of wooden flooring which was evident from the in-situ floor beams in most areas of the building. This flooring was characterized by the layers of grey sand, which were used as levelling layers underneath the beams. In the southernmost room this layer appeared to cover the floor beams (ST179845), but this could be due to the degradation of the beam (Fig. 295b and 297).



Fig. 297. Sill beam (ST179845) with underlying clay floor (SD181446), facing west. Photo: Museum of Copenhagen.

In the southernmost room there were three parallel floor beams aligned NE-SW, each 0.72 m apart, which would have had wooden planks nailed across them (some of the nails were in-situ) (Fig. 295b). In the alcoves there was no evidence of a wooden floor at this level, but a small patch of clay floor in the NE corner of the northern alcove suggests that the wooden floor was at least partially replaced by clay. The room to the north of the alcoves showed the most development at this time. A patchy clay floor (SD184673) was placed over the removed beams (SG-880), presumably to raise the floor level and act as a foundation for NE-SW floor beams in ST184779 (Fig. 298).



Fig. 298. Sill beam (ST184779), facing east. Photo: Museum of Copenhagen.

Brick wall/foundation (SG-877), which also cut through this layer (SD184673), was aligned with the wall sill beam (ST168309) to the south, and could represent a new doorway between the “corridor” and this room (Fig. 299).



Fig. 299. Part of brick structure SS169227 and interpreted doorway in SG-877 exposed in the Guide Wall trench, facing SW. Photo: Museum of Copenhagen.

It could also be at this time that doorway (SG-879) was blocked up. Posthole (SG-878) could be associated with these renovations as it appears short lived, and would have been covered over by wooden floor boards. Plank floor (SG-887) was all that remained of the actual floor surface, along with more grey sand, which could have acted as an additional foundation layer, or it could (possibly) represent the usage layer over the floor boards which fell through between them over time, however it was rather thick for that. In the northernmost room there were two small areas of clay floor laid during this phase. It could be that these were to act as further foundation layers for wooden planks, but this seems unlikely – perhaps plank (ST182666) only seemed to underlie the clay due to its poor preservation?

Phase 5: This phase only occurs in the southernmost room. It consisted of patchy clay “floors” and levelling layers (SG-890), but why replace a wooden floor with clay? It could be that these layers actually represent part of the abandonment, deconstruction and demolition of the building and only appear to be in-situ.

Deconstruction:

Phase 1: The deconstruction of the building is represented by dump layers (SG-889) over the plank floor, and possibly floor (SG-890) (Fig. 300).

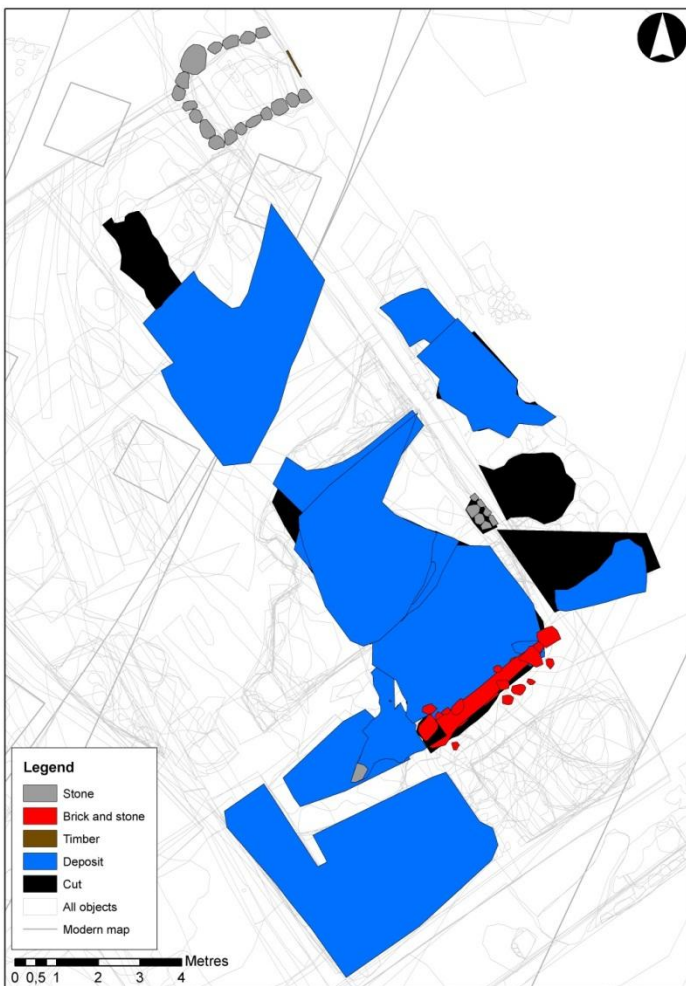


Fig. 300. Contexts belonging to the deconstruction phase of building No. 1 with robber pits and demolition layers. The figure also include a sub-rectangular feature and brick wall discussed below.

There is evidence of extensive robbing of the outer walls represented by SG-789 and SG-868. The latter robbed out at least one course of foundation stones, when the area delineated by the robber trench was backfilled with mixed

demolition material. The deconstruction cut (SC181379) also covered the northern wall of building (G-796; see below) to the south, suggesting that these buildings were demolished at the same time (Fig. 301).



Fig. 301. Part of robber cut SC181379 belonging to SG-868, facing west. Photo: Museum of Copenhagen.

This cut represented the robbing of structural elements from the outer wall of the building. The shape of the irregularities and the presence of boulders at the base of (SC181379) suggested that it was another layer of boulders which was removed. This must have happened at the time the building was destroyed, as the demolition layer directly covered the floor and filled this cut.

The demolition material consisted of mixed silty clay and sand with inclusions of charcoal, pebbles, lime fragments and CBM (roof tile and fragments of red and yellow bricks), where the presence of yellow bricks suggests a date of 17th century or later. Other datable finds consist of ceramics (Jydepots, Late light fireware, Late redware and stoneware) and clay pipes.

The material probably also represents the demolition of building G-796, as it overlay brick wall (SS182180), but the relationship with the remainder of the structure had been truncated away by more recent disturbances.

Appearance:

There were several pieces of painted plaster found in the demolition material which could give some indications of the building's appearance. The internal wall render where it was present seemed to be just white. A single piece of black painted render was found, but there were also several red painted pieces, one of which seemed to be painted in the outline of bricks. Demolition dump (SD178785) contained a high quantity of clay and almost no brick material, which would indicate that the building was constructed with clay rather than brick. So, this may have been a timber framed building which was painted to look as though it was brick built.

Function:

While buildings from this period tended to be multi-purpose, there are indications that there were some specific activities within the building. The chalk floor in the southernmost room of the building could indicate that livestock was kept here: chalk is the ideal base for livestock due to it being able to absorb urine from animals, keeping straw or other bedding drier, resulting in a more aerobic state, and hence producing less ammonia.

The function of the pits cut through the floor during the second phase of renovations is unclear, but it probably relates to a change of use of the room.

The function of the two middle, smaller rooms or alcoves is unclear, but they must have had a definite purpose as the placement of the foundation stones under the sill beams shows that the dimensions of the rooms were deliberately laid out during construction. The three or four phases of re-flooring also show that these areas were in use throughout the life of the building. The iron panning in the lower floors could indicate some specific function here, as it was not present in the floor layers in other areas of the building. Some secondary metal working has been suggested, but no definite evidence of this type of activity was found, however, all floor levels were sampled for evidence of different types of activity.

Dating:

Based on the finds material (ceramics and clay pipes) the building can be dated to the second half of the 16th century with its final destruction in the mid 17th century (probably in connection with the establishment of Kongens Nytorv).

20.1.1.2 Sub-rectangular feature

North of and connected to building (G-790), 18 stones were recorded making a sub-rectangular shape (G-784) (Fig. 300). Inside the rim of stones a lot of CBM was observed – all broken red and yellow bricks, but also large pieces. The stones extended out of excavation to the NE. The two SE stones were 5-15 cm higher than the opposite stones. The surface was not very even – meaning it would not have been suitable as a foundation for sill beams. No construction cut was observed, though the area was excavated by machine which could explain why this detail was not observed on site.

The deposits within the feature consisted of dump layers of different colour, composition and homogeneity, where especially (SD169199) and (SD169274) contained a large amount of household waste, decomposed, organic and demolition material – red bricks, roof tiles, but also a few yellow bricks (Fig. 302). Two concentrations of slag and charcoal were observed – one in the SE corner near a wooden pipe, and one close to the northern row of stones.



Fig. 302. Sub-rectangular stone structure (SS169390) with brick layers and a wooden pipe in the section, facing N-NE. Photo: Museum of Copenhagen.

Finds from the construction phase consist of ceramics (stoneware), glass (window), iron nails and a few animal bones. The deconstruction phase had more varied material – ceramics (Jydepots, Late light fireware, Late redware, Majolica and stoneware), roof- and stove tiles, bricks, glass, window glass, iron nails, unidentified iron objects, a knife blade, -spade, -tool?, slag, hard coal, a quern- and a whetstone.

The nature of the construction and purpose was at first unclear. There was no bonding material and the stones were unevenly shaped and did not present a level surface to use as a building foundation. Mortar occurred only sporadically on some of the stones. After the continued excavation of the Station Box area to the west and SW, building (G-790) was identified. The northern wall of the building, which had been robbed, appeared to have been in the same alignment with the southern wall of this structure, however due to the limits of the areas of excavation, there was no evidence of the relationship between the robbing and the structure.

From photos (section) it seems there was a construction cut for the stone structure through floor layer (ST169148) in building (G-790). In which case this small structure appeared to be an extension to the building, but there was no evidence for specific activities within this structure to clarify its function, etc. and therefore the feature has been considered to belong to the deconstruction phase of building No. 1.

20.1.1.3 Brick wall

G-891 consisted of a NE-SW orientated brick wall with rounded foundation stones and lime mortar, where context SS182180 was a fully laid irregular brick wall with two or three courses (Fig. 303). Both whole- and half-bricks had been used and the bonding material consisted of unfinished, fairly loose mortar with occasional charcoal inclusions.

The wall was placed on a shelf of middle sized stones. A pad stone SS179131 appeared to be the NW corner of building No. 1 that extended into the area from the SE.



Fig. 303. Brick wall SS182180 with part of the foundation stones, facing SW. Photo: Museum of Copenhagen.

This wall had a corner stone at its western end which had been pulled slightly out of alignment during excavation. The wall cut through the foundation cut of building G-790 to the north, but was beneath the demolition cut of this building, and can therefore have been contemporary with it.

20.1.1.4 Separate wall

G-996 represents a short wall structure including a limited construction cut, stones and a demolition layer of CBM. Context (SS186091) consisted of a single layer of two rows of stones, running in a NW-SE direction. The sheets were

lost, and so the stratigraphy was deduced from the z-values in IntraSiS. During excavation this area was thought to have been truncated by the Guide Wall and so was not fully excavated until later – so it was not seen in full context with the remainder of building G-790.

20.1.1.5 Building No. 2

Building No. 2 (G-796) had approximately the same location and orientation as building No. 1 and consisted of construction cut, sill stones, sill beams, brick walls, floors, construction and levelling layers, a pit and a single posthole (Fig. 304).

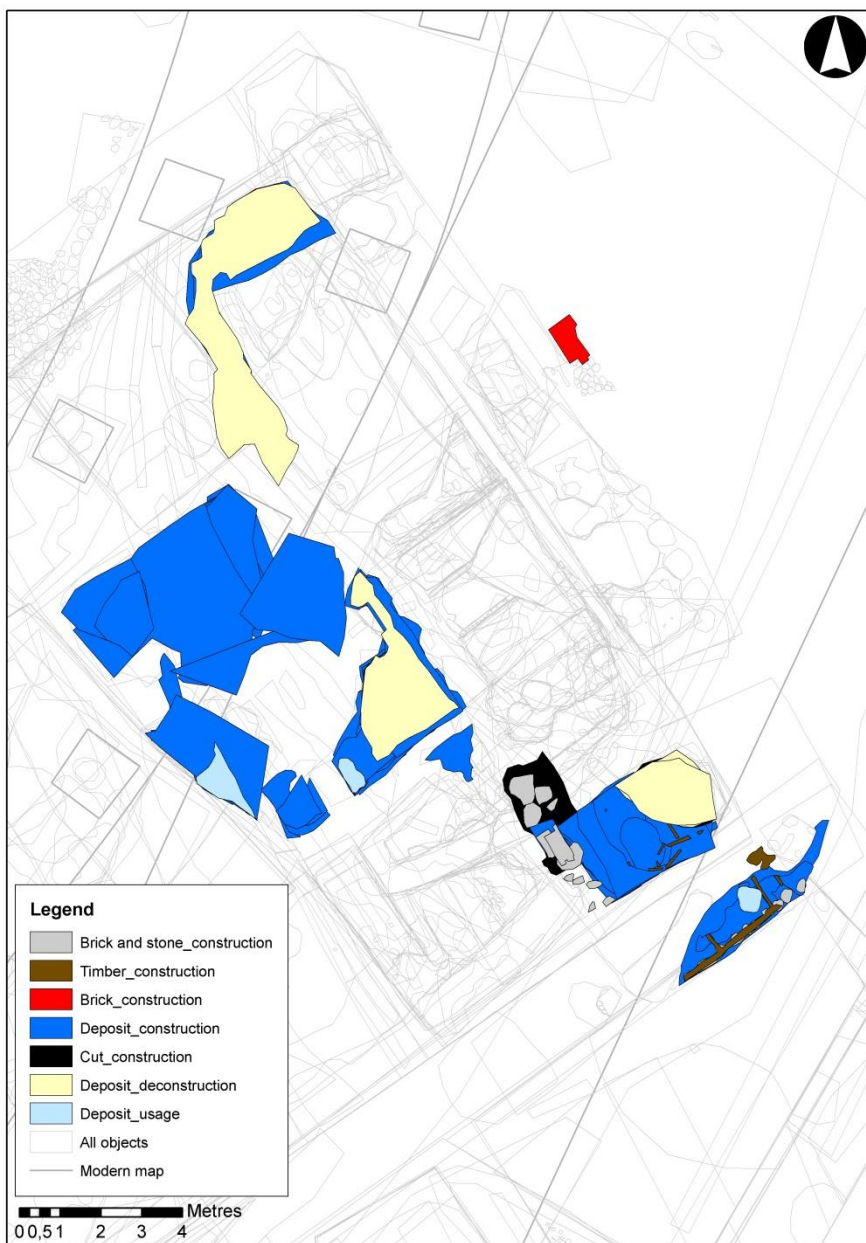


Fig. 304. Contexts belonging to all phases building No. 2 consisting of stone and brick walls, construction cut and different deposits. Construction cut SC182746 with stones and brick wall SS173167, SS188204 and SS182729 is partly covered by later deposits and SS187710 by sill beam ST172861. The two sill stones in SS314499 is not shown on the figure.

Rectangular cut SC182746 was the original cut for brick wall SS182729 backfilled with mixed clay, mortar and CBM fragments (SD182761). The interpreted construction and levelling layers consisted of mixed deposits of different colour, composition and homogeneity, where some deposits contained large amounts of demolition material (CBM) (Fig. 305).



Fig. 305. Foundation layer SD184360 after removing levelling layer SD183954, facing south. To the left – larger truncation and pit SC184341. Photo: Museum of Copenhagen.

Context (ST184389) consisted of eight pieces of timber within foundation layer SD184360. The wood was registered on site even though it was very hard to say for sure if it represented a timber structure or not. Deposit (SD183618) consisted of red bricks and patches of firm green clay in between the bricks on the east side of a brick and stone wall (SS187710). The way the bricks were deposited and bounded by green clay suggests it to be a kind of surface or base for the upper floor layers in the building.

The sill stones (SS173167 and SS314499) consisted of a row of 13 mid grey and unfinished stones orientated in a NE-SW direction (Fig. 306). The stones faced the edge of the excavation area to the SE and were partly removed by machine without proper investigation due to CMT's access to the area combined with measuring problems. Two of the stones were recorded in the Bitrappel trench in 2016.



Fig. 306. Sill stones SS173167, facing NE. Photo: Museum of Copenhagen.

The foundations for brick wall (SS187710) was constructed out of large and medium sized stones and bricks (mostly half bricks, fully laid, bonded with yellow clay with mortar inclusions) running NW-SE (Fig. 307). Stone structure (SS188204) in the SW part of the building and north of brick and stone wall (SS187710) consisted of four stones not placed so that uppermost sides were flat. Bonding material consisted of the mixed soil through which the construction cut for the wall was dug and so represented more backfill than bonding.



Fig. 307. Foundation stones SS187710 after removing foundation layer SD187702, facing south. Photo: Museum of Copenhagen.

Brick wall (SS182729) had its eastern side constructed with red bricks laid on stretcher end to form a doorstep. A short length of NW-SE wall with cobbles (SS182706; SG-902) abutted to the east. A potential doorstep was disturbed during machining, so this could have been an entrance into a courtyard (or semi-basement?). It could be related to an E-W brick wall recorded further north, but both structures had been truncated by cut SC179612 so any clear relationship had been lost.

Surface (SG-902) represented a layer of cobbles (SS182706) and its associated foundation layer of bedding sand (SD182798). It seemed to cover floor layers within building (G-796) and so probably represented a re-use of the space, however it was robbed out so the full extent was unclear. It may have been for a yard, or a cobbled semi-basement.

Sill beams (ST172861) had white sand, used as bedding to stabilize the wood both in connection with the underlying sill stones (SS173167) and later interpreted foundation layer of clay (SD172695). Smaller cross beams overlay the

larger main beam (Fig. 308). The sill construction was disturbed by a large truncation to the north, where some of the beam fragments were not in situ.



Fig. 308. Sill- and cross beams (ST172861) with sand bedding, facing NW. Photo: Museum of Copenhagen.

ST172829 consisted of a fragmentary wooden floor with an unknown number of planks. Compact, uniform clay (SD173341), north of the sill stones was recorded as possible activity within the building, but this was not certain.

Subgroup SG-903 represents a subcircular pit, which consisted of a cut and two backfills, the lower of which was interpreted as possibly being connected to some sort of mortar production. The pit had been cut into levelling layers within the construction of building (G-796), and had been covered by a floor layer, so perhaps it had something to do with on-site construction. The finds consisted of ceramics (Late redware), a roof tile, an iron nail, part of a wooden barrel and animal bones. A single posthole (SG-794) was recorded in connection with building G-796. It was not possible to fully excavate it due to measuring problems.

Building No. 2 can be dated to the 17th century based on the finds – ceramics (Jydepots: 1500–1850 AD, Late light fireware; 1550–1650 AD, Late redware; 1500–1800 AD and stoneware; 1500–1800 AD) and clay pipes.

20.1.1.6 Timber structure

G-503858 represents a trapezoidal and somewhat bent structure (length: c. 13.0 m and width 3.4 m) consisting of and limited by horizontal planks reinforced and abutted by vertical wooden beams. The timber structure was divided into at least three separable sections, two of which were divided by a north-south running drainage (Fig. 309). The function is unclear, but the planks probably had a supporting function for the cobblestones either in an intermediate street or a larger courtyard either in connection with building No. 1 or building No. 2 (see above).



Fig. 309. Timber structure G-503858 with cobble surfaces and drainage. To the south similar structure G-504246.

There were no fastenings or joints to connect the timbers to planks and as a fulfillment and levelling assessment within the structure, varying deposits had been used – both homogeneous sandy clay layers and industrial waste. All parts – both inside and outside the structure have originally been covered by cobbles, although only the eastern parts were preserved during the investigation. The other parts had been looted for stones (recorded as stone imprints) and truncated by later activities such as several pits and a wooden water pipe. Similar features were investigated in the Station Box 2013 (G-866) and in the Guide Wall (G-504246) further to the south (see below) and probably represents similar or part of a larger structure (Fig. 310).



Fig. 310. Overview timber structure with drainage, bedding layers and cobble surfaces, facing NW. Photo: Museum of Copenhagen.

Transverse and dividing beam in the structure, ST314983, was actually two beams with a tenon joint (northern part) and mortise joints (southern part). The joints were 0.03 m wide and 0.27 m long and keyed into each other. The northern beam was 1.95 m and the southern beam 2.13 m long. When the beam was removed, an organic and rectangular shaped deposit was present, which had been pressed into the mortise joint. This appeared to be hay/grass.

All timber beams had been pushed into the underlying deposits. The length varied from 0.53 m to 0.95 m, width between 0.10-0.12 m and thickness from 0.08-0.14 m. Several timbers were re-used; cf. one side of ST314670 had six circular peg holes, varying in diameter from 3.0 cm to 5.5 cm, and with a depth of 4 cm (Fig. 311).



Fig. 311. Post (ST314670) with peg holes. The post has probably been part of a mill or a ladder-like fence to catch fish (Fig. 312). Photo: Museum of Copenhagen.



Fig. 312. Salmon farm at Sneum Å in western Jutland. From Daly 2017.

ST316149 at the southwestern boundary of the structure close to the Guide wall truncation consisted of a box-heated post with vertical setting. The taper was 0.47 m long and the point 0.07 m long. In section C503894, tip lines were visible, indicating the matrix level that the post had been pushed in to the ground (Fig. 313).



Fig. 313. Overview of section SC316153 with vertical timber post (ST316149), road surfaces and levelling layers (G-958), facing NE. To the left – Guide wall truncation. Photo: Museum of Copenhagen.

The lid of the drainage (ST314703) consisted of a plank lying horizontally with a north-south orientation and with the dimensions of 3.04 x 0.31 x 0.04 m. The plank was broken and collapsed slightly on the northern end and the drainage was filled with the overlying deposits. The plank rested on two vertically set planks, ST315010 and ST315014, as well as timber slats ST318687. ST318779 formed the base of drainage G-503859 consisting of a linear N-S orientated plank lying horizontally on its wide side (Fig. 314). The plank was 3.9 m long, 0.31 m wide and 0.05 m thick.



Fig. 314. Base plank ST318779 in the drainage, facing south. Photo: Museum of Copenhagen.

There were no joints to join plank ST318779 to planks ST315010 and ST315014 (see below), however, there were at least five iron nails with an approximate vertical inclination of axis. This connected ST315010 and ST315014 to plank ST318779 of which three nails were recorded in the western side and two nails in the eastern side. The nails were located in the northern end, opposite each other, and also opposite each other in the southern end. The nails had been entered into plank ST318779 from the underside, so that the nails were pointing upwards.

Timber plank ST315010 and plank ST315014 represent the western and eastern side of the drainage and was placed horizontally on their narrow side. The planks sloped slightly downhill from south to north. On the top of the planks there were five lap halving joints (ST318687) at approximately equal distance from each other (c. 0.55 m) (Fig. 315). The lap halving joints varied in size from 9-12 cm wide with a depth from 4-6 cm. There were also five iron nails fixing the wooden slats in ST318687 to plank ST315010 and ST315014. There was one nail in each lap halving joint. The nails had a vertical inclination of axis. Head dimensions of the nails were 3.0-3.5 cm in diameter and length 7.0-8.0 cm. Wooden slats ST318687 rested in the lap halving joints and protruded by c. 0.1 m from the side of the two planks.



Fig. 315. Close up photo of post ST314610, plank ST317703 and ST315010 in drainage SG-503859 with one of the iron nails, facing west. Photo: Museum of Copenhagen.

Lap halving joints for slats ST318687 shows that the drainage structure was a stout structure, in order to secure plank lid ST314703 and that the drain was constructed as a “box” before being placed on the ground.

SS318743 consisted of a mix of stones, partial red brick fragments and tiles within the drainage, where all stones and bricks were lying flat, suggesting that they were purposefully placed and not dumped.

The stones were most dense in the southern end of the drainage. The lack of presence of stones/bricks through the entire length of the drainage SG-503859 suggests that SS318743 were coincidental with fill in drainage SD318740. However, if the stones were a result of fill/being washed into the drainage, as opposed to a structure within the drainage, then their presence is problematic, since the stones were too big and too packed together to have been easily washed into the drainage. Perhaps the weight of overlying deposits has simply pushed the fill/stones inside? For the purpose of the matrix, fill SD318740 and stones SS318743 were considered to represent the usage phase of the drainage SG-503859. The fill SD318740 consisted of mid grey-brown silty clay including ceramics, clay pipe and bones.

A sample from the base plank was submitted for dendrochronological analysis. The sample contained 123 tree-rings from pine, but despite the relatively long tree-ring series, no dating position could be identified (Daly 2017).

SD314103 and SS314711 consisted of a heavily truncated cobbled surface, associated with timber frame structure G-503858 which it abutted on its western edge. Its edges were apparent and marked by a larger row of rounded cobbles on its northern and southern edge. It was also apparent that it was laid in two halves – a southern half and a northern half (Fig. 316).



Fig. 316. Overview timber structure with drainage, bedding layers and cobble surface (SS314711), facing SE. Photo: Museum of Copenhagen.

This was clear from the line of larger stones that ran along its centre in an east-west orientation. This was confirmed upon the stone's removal showing the two separate deposits of sand to the south (SD317955) and the north (SD317621).

Other than the larger stones running along the edge and the centre this cobbled surface was not formerly laid, nor was it grouted with any mortar. Its construction consisted of a tightly packed levelled surface of water rolled beach cobbles. They were laid on a levelled layer of pure sand (SD317955 and SD317621) and directly abutted the eastern timber (ST314983). These two features appeared to be closely related as the cobbles continued from the timber.

A truncation occurred when a constructed trench (SC315790) was dug for a wooden water pipe in the Late post medieval period running in NE-SW direction. All that remains of the eastern half of the cobbles was the northern edge; the rest had been heavily truncated by modern activity – a Guide Wall trench. Another interesting feature related to this surface was a patch of fragments of red brick (SS315807) that had been informally laid to create a surface north of the eastern half of the cobbled surface. Again this surface had been heavily truncated by the wooden pipe trench and

modern Guide Wall trench. SS318500 consisted of a rough foundation layer to level/support beam ST314983 represented of red bricks, roof tiles and stones.

SS315807 represented a very roughly laid surface composed of broken re-used fragments of brick placed irregularly together to create some sort of surface. The surface had been significantly truncated by timber water pipe trench SC315790 (G-911) to the west and possibly by machining to the east. Subgroup (SG-504258) represented a cobbled surface including foundation and levelling layers south of the timber structure. SS316206 consisted of a spread of rounded stones south of the timber structure, which appeared to look like dispersed cobbles, probably robbed and reused elsewhere. The stones were irregular shaped, but relatively uniform in size; c. 0.2 x 0.15 x 0.12 m.

With some exceptions, the bedding and levelling layers related to the construction phase and within the timber structure consisted of mixed grey-white silty sand with varied inclusions of finds. Both SD317693 and SD317747 consisted of dark brown-black clayish sand with a large amount of charcoal, soot and slag interpreted as industrial waste secondary used as levelling layers. Central parts of SD317373 had been robbed of cobbles.

Finds from the construction phase can be dated to the late 16th century/early 17th century and consist of ceramics, clay pipes, copper alloys, iron, lead, slag, glass, leather and textile. One of the finds consists of a metal star shaped lattice object found in SD317982 (Fig. 317).



Fig. 317. Star-shaped fitting with a duck, eagle or griffin (FU504189) found in one of the levelling layers within timber structure G-503858. Photo: Museum of Copenhagen.

The star-shaped fitting (c. 10 x 12 cm) of either copper alloy or bronze shows a duck, eagle or a griffin. Looking at the Danish nobilities and their symbols, it is very well suited to the Danish nobility *Gaas*, and if this suggestion fits with the object it can be dated to before the 16th century. Alternatively the bird can be a heraldic eagle of later date from Jutland (cf. *von Deden* or *Glob*) or the southern Baltic Sea area – perhaps from Brandenburg, Poland or Preussen (*Adelsvåben fra middelalderen* 2017).

Group 866 investigated 2013 is a continuation of the timber structure further to the west. Levelling layer (SD166067) consisted of dark grey sandy silt with domestic waste – ceramics, CBM, slag and animal bones. Context (ST166138) consisted of six pieces of timber; two vertical posts, two vertical (on edge) planks and two horizontal planks. The two posts were square; the timber cuts were not obvious.

A similar feature (G-504246) was recorded further south representing some kind of timber box with three planks lying flat, set into and filled by sterile clay (see Fig. 309 above). The wooden structure was set into or between two areas of grey/yellow clay and stone levelling type material (pebbles). The feature was a fragment, having been truncated on two sides. It appeared to form one end of a square or rectangular wooden “box”, set into and or filled with levelling material. What remained were one vertical inner corner post, and two planks on edge meeting at a right angle at the post. The vertical post had a flat base, not pointed, so probably not driven in. The cut consisted of a concave posthole around a post ST314304, backfilled with more of the sandy clay, but including some CBM material (brick fragments).

The slag analysed from the levelling and bedding layers in the timber structure (mainly from SD317693 and SDD317747) consisted of more or less molten clay mixed with varying amounts of iron oxide, probably in the form of hammer scale (Jouttijärvi 2017). There must therefore be speech clays that have been in forges that have been used for forging purposes.

As the clay has been blended with pure iron oxide, there were no signs of processes such as primary lubrication of lint iron and welding, suggesting that the ace had only been used in secondary forging (forming) of iron. This was confirmed by hammer scales analysis, which showed that these came from secondary forging.

Remarkable is the unusually large thickness of the hammer scales. Normally, dross from secondary forging is thus between 0.1 mm and 0.3 mm thick, but in this case the thickness of most of the scales was 0.5 mm to 0.8 mm. This indicates that there has been a strong and very long heating of the iron, only known when large objects have been smithed. The best known example of a workshop where the dime of this thickness was dominant, is Peyambert's cannon foundry in Frederiksværk in northern Zealand. The idea of this building, which was built in 1751 AD, was that cannons could be made stronger and more precise by forging instead of casting.

The indication that there were very large items that were produced may indicate that the material came from one of the smithers at Holmen. What has been smithed cannot be said with certainty, but it is nearby to think that there might have been anchors, and possibly larger fittings for shipbuilding. It is not known, however, whether one could also tried to forge cannons.

One of the pieces examined, first interpreted as a slag, was found to consist of sand and hammer scales, and enclosed by iron corrosion. This could represent part of a floor layer from a former smithy.

Among the slag, many rusty lumps also contained smaller pieces of iron. In most cases, however, it is not possible to say whether these are small objects or pieces cut from the forging of other objects. Of eight examined pieces, 5 showed a very high content of phosphorus (0.4-0.6%). Of these, it is likely that at least three were recovered within eastern Denmark. If the use of phosphorous iron had a special meaning cannot be said with certainty. However, phosphorous will make the iron more resistant to corrosion, and it has previously been observed that phosphorous iron has been used in rivets and fittings for ships.

Two of the pieces studied consisted of steel with high carbon content (0.8-0.9% C). Both of them, together with a piece of low carbon iron, have their likely origin in the central European region, including southern Germany, the Czech Republic and Austria.

20.1.2 Roads and wheel ruts

The documented road surfaces and associated levelling layers ran parallel and outside the 17th century moat and consisted of brown-grey and blue-yellow silty sand and clay with inclusions of red brick fragments, pebbles, stones, bones and in some cases manure/dung (Fig. 318 and 319).



Fig. 318. Road surfaces and wheel ruts outside and in relation to the 17th century moat.



Fig. 319. Road surface of well packed pebbles and stones (SS165259), facing NW. Photo: Museum of Copenhagen.

Several wheel ruts running in NW-SE direction was recorded as one of the oldest activities in the area, and probably represented the traffic going to and from Bremerholm in the late 16th century (Fig. 318 and 320). The wheel ruts, 0.9-1.1 m wide, were delimited by two parallel drainage ditches on both sides and acted as boundary markings for the road course (cf. Fig. 321). The width of the ruts was between 0.30-0.60 m and depth varied from 0.02-0.10 m – deepest towards the north. This suggests that the road had been situated in a wet area which was also supported by the fact that there were eight parallel wheel ruts within an area of approximately 9 m.



Fig. 320. Wheel ruts SD189017 and SD189061, facing NW. Photo: Museum of Copenhagen.

20.1.3 Fence- and stake lines

Group (G-937) represents two parallel fence lines, aligned NW-SE across site (Fig. 321). All oak posts were in similar size and width, but some of the spacing differed. Some of the posts had been removed, especially where building group G-790 was constructed, which may have been the reason for their removal. All posts were oriented in a similar direction, with their longest sides parallel with the overall alignment. Some of the posts had no construction cuts, so these may be a later addition; e.g. post (ST185224) may represent a replacement/strengthening of post SG-934.

These fence lines, along with the ditch to the east (which was later, but on the same alignment) could represent boundary lines crossing the area before it was developed. The same alignment was maintained by the later building, which could support this suggestion. Group (G-995) consisted of a stake line comprising seven stakes roughly aligned to form a short L-shaped fence line. It could represent a property boundary associated with the buildings further to the east.

20.1.4 Pits, ditches and boulder

With the exception of G-787 most of the pits were fairly anonymous and without further interpretation, though in some cases the secondary backfill indicates nearby iron working (cf. G-787 and G-867), waste handling and different types of garden activities. A number of ditches were documented and interpreted either as drainage or boundary ditches (Fig. 321). A large granite boulder had been placed in one of the drainage ditches, its position coinciding with the southern extent of building G-790, suggesting the boulder had been used as a boundary marker.

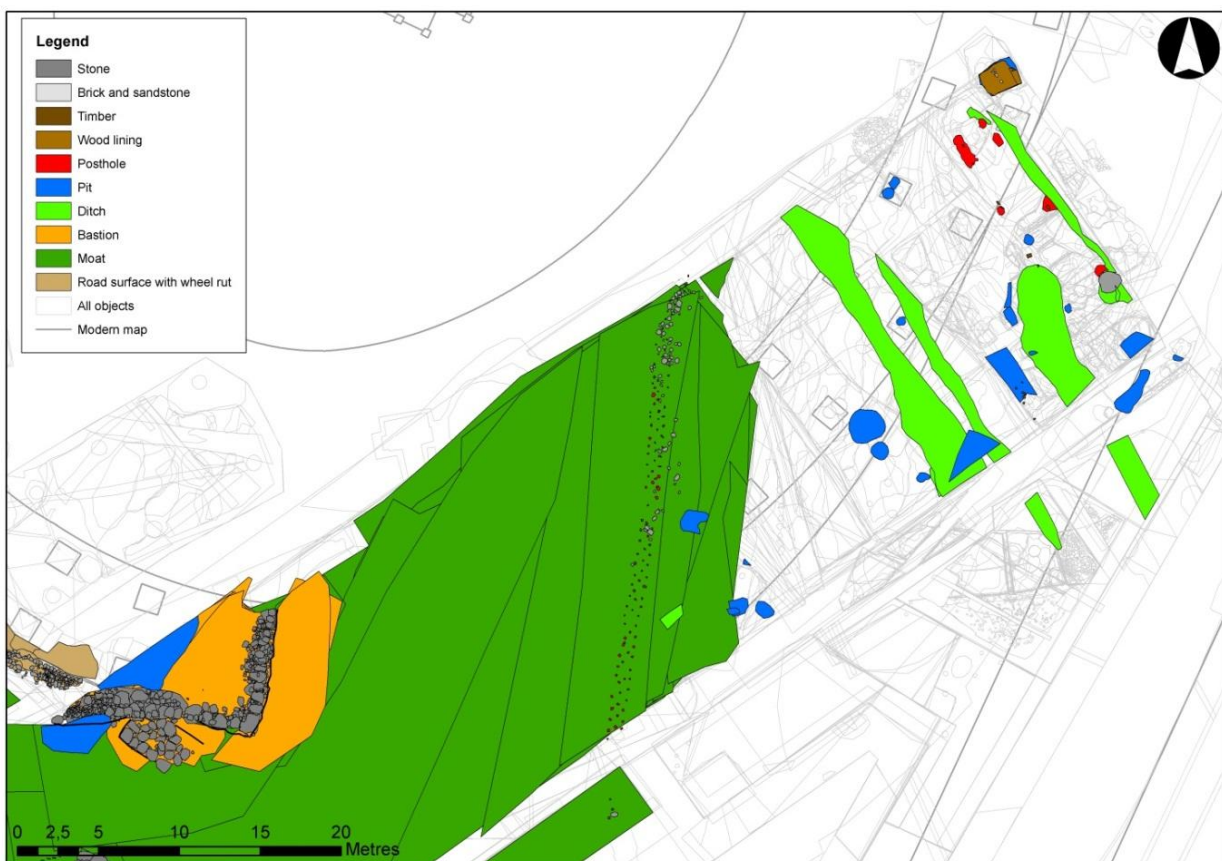


Fig. 321. Ditches, pits, fences- and stake lines recorded outside and predating the 17th century moat. A large pit with wood lining (G-787) can be seen in the NE part of the excavation area. Although the original function of the pit is unclear, the secondary dump could possibly be associated with iron working in the immediate vicinity, cf. timber structure (G-503859) above.

20.2 Overall discussion and interpretation

20.2.1 Settlement and other activities outside the city gate

There is very little information available about the settlement and other activities outside the medieval city gates if one looks at archaeological items, written sources and older maps. This is a fact that not only applies to Copenhagen, but also to other Hanseatic cities in the Baltic Sea area.

Here the residents also chose to site contaminating, flammable and space-intensive activities. A sulphur house was placed immediately outside Østerport at Store Kongensgade in the 16th century. Outside Lille Kongensgade the large three-storey Sejlhus was placed, originally intended for grain storage. Perpendicular to Sejlhuset was located the 100-metre Reberbanen (Hartmann and Hartmann 1988:6 et seq.).

Previous archaeological investigations carried out in close proximity to Kongens Nytorv and Rådhuspladsen have revealed stretches of roads and buildings dated to the Late Middle Ages or Renaissance period; buildings inhabited by the occasional visitor or wage workers, especially with regard to the large capital investment structures and in terms of the big fires in 1728 and 1795.

Based on the written sources there was no real settlement outside Østerport before the royal decree of 1547 issued after pressure from the city's citizens. The area was rapidly developed with fenced fruit and cabbage gardens, terraced houses and intermediate streets. The control of the new buildings must have been deficient for in 1575 a royal decree was sent out declaring that something should be done about the fact that many people lived outside the city walls and were not paying taxes. In 1622 as much as 163 families lived outside Nørreport and 110 outside Vesterport, mainly consisting of poor people (Nielsen 1885:386).

In the *Jordebog* from 1581 there is a long record of kitchen gardens outside the gates, but there are no details about how many buildings were associated with them. This emerges clearly in one of the basic drawings from the 17th century where several houses are marked between the plots (Fig. 322).

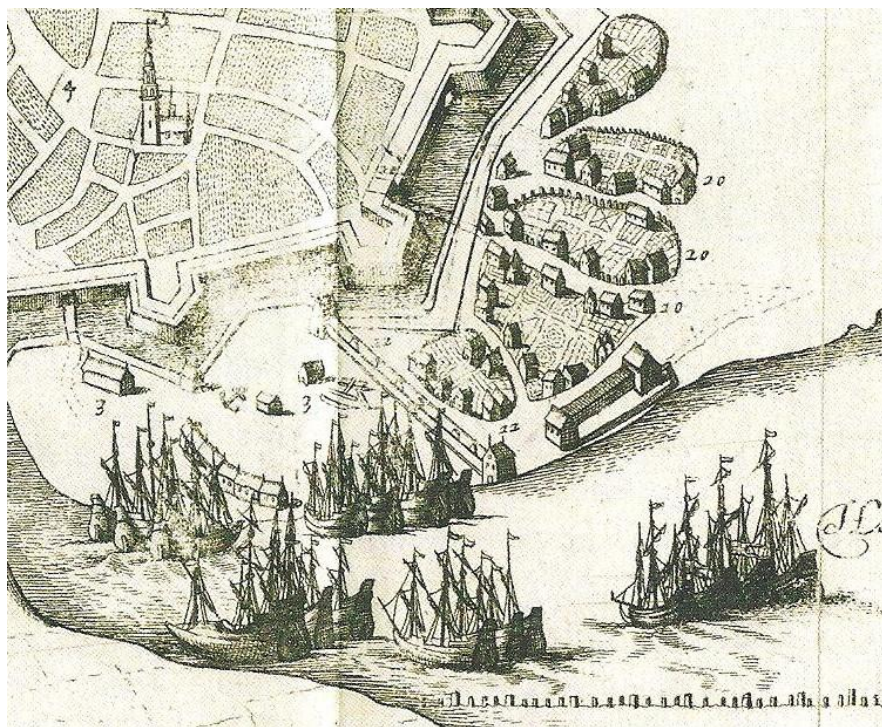


Fig. 322. Østervold's suburb outside Østerport. From Resen's map in "Atlas Danicus" 1677.

With the new fortification it was planned that these areas should be cleared of legal and illegal settlements, but the building and plans were delayed which emerges clearly in *Jordebøgerne*, and it is uncertain whether this was for political or economic reasons. There must have been resistance to Christian 4th's plans which stated that as late as 1645 there was still a comprehensive settlement outside Østerport. Besides small houses there were rent booths for poor people. There has been mention of rows of small houses, similar to today's Nyboder (Fig. 323), inhabited by one or two families. Up to 18 families could have lived in some sort of these rows of small houses.



Fig. 323. Present Nyboder from 1631 in Copenhagen. Photo: Morten Steineke.

Only few archaeological observations of houses have been made in the area just west of Rådhuspladsen. In the early 20th century Ramsing observed simple houses dated to around 1400 with clay floors and wattle walls in the area near Farvergade. No traces of buildings were recorded at the Metro investigations at Rådhuspladsen which could describe the settlement and other activities outside Vesterport in the 16th and 17th century (cf. Lyne and Dahlström 2015).

After the relocation of the gate and rampart in 1647 Kongens Nytorv was left derelict, with half-demolished walls, massive soil piles and mud. The area was used as a landfill and dock for boats from and to the neighbouring counties Scania and Halland, in the tiny cove Krabbøløkke through the current Nyhavn. In 1647 the destruction of the city's fortification began, and with the facilities of Ny-København the city expanded yet again to the east and the old rampart terrain was laid out for squares and buildings.

20.2.1.1 Buildings, intermediate streets and courtyards

Both building No. 1 and building No. 2 represent timber framed buildings with separate rooms, smaller alcoves and corridors. The examples of different phases of re-flooring (both chalk, clay and wooden beams/planks) suggest long-term use and possibly also a change of use of at least one of buildings over time.

The timber jointing technique was throughout the Middle Ages the dominant building technique adopted over large parts of Scandinavia. The houses, built of oak, were in plan quite uniform. Each building consisting of one room employed some sort of sill construction and was superficially quite small, about 3 to 5 metres wide, and 7 to 9 metres long. The technique was probably introduced in Copenhagen during the 1200s and came to be the dominant building technique during the medieval period and retained this position well into the 19th century. The advantage with the timber jointing technique was that it was wood-saving and the sill stone extended the life of the building. The building technique was also adapted in areas with little forest and lack of suitable building material. Bricks were introduced in

the 12th century, but did not have final approval in Denmark and the cities before the second half of the 1200s (see further discussion Chapter 14.2; Phase 4b Late medieval city wall 1350–1550 AD).

In connection with the booths and buildings there have been intermediate streets and courtyards and the area has probably been divided into plots similar to the settlements behind the city gates.

20.2.1.2 Gardens, grazing and arable fields

In 1606 Christian the 4th bought up all the gardens and plots outside Østervold, i.e. the area between Østerport and the beach, as well as the area between the fortification and the shoreline to the northeast. The area where Rosenborg is located today had long been used as fruit and kitchen gardens, but when the area was developed under Christian the 4th, these were moved closer to the rampart which had hitherto been used as grazing and arable fields (Fig. 324).



Fig. 324. Gardens and plots outside Copenhagen as seen on Braun and Hogenberg's prospect from 1588.

The most common type of garden in medieval times was the vegetable garden (in Danish Kålgård). Almost everyone – independent social of position – had a vegetable patch (Hansson 1997). The word cabbage may be a bit misleading because the cabbage was a term used for many plants that had edible leaves. The turnip cf. was not grown until the latter part of the 16th century. Kålgården was probably an enclosure to keep the animals away. The fences were built from branches of willows which were intertwined. Inside the fence there were trodden paths and small raised areas where the plants were grown. The garden was probably not particularly large.

Different kinds of onions such as garlic, leeks, and chives, were well-liked vegetables. They were used both for cooking and medicinal herbs. Carrots and parsnips were also grown in the medieval kitchen garden. Besides cabbage, some people also had hops and orchards.

Bourgeois gardens in cities during the Middle Ages were similar to those that existed in the countryside. With time, however, there was less room to grow on and the bourgeoisie then moved their crops to the city outskirts, or even outside the city walls.

The apple orchard mainly consisted of apple trees, but also pears, cherries and plums. While the peasants' apple orchard was small, the monasteries had large plantations. Even noble people and the citizens had big apple orchards.

Hop gardens were also an important part of the plantations. The hops were probably transferred from Germany to the Nordic region by monks. In Germany hops had been cultivated since the 8th century, but it was not until the 1200s and 1300s that any one started to cultivate hops to a greater extent in Denmark. By then they had acquired a taste for beer spiced with hop, rather than the older style beer that was spiced with bog myrtle. The hops also helped to extend the beer's shelf life because it prevented the beer from fermenting.

20.2.1.3 The roads to Østerport

The wheel ruts and the drainage ditches represent traffic to and from Bremerholm in the late 1500s. The ship wharf was established by King Hans in the late 15th century. The road surfaces are dated to the second half of the 16th century and to when Østervold went out of use and with the establishment of Ny-København in the mid 17th century. Traces of the main road(s) at Kongens Nytorv had been recorded previously with an associated road ditch C14-dated to 1182–1395 AD (cal 2 σ), though collected finds were primarily from the period c. 1550 to 1750 AD (Poulsen year unknown; Leen Jensen 2007).

The somewhat later roads recorded outside the moat probably represent traces after the main roads that radiated from Østerport, were Lille Strand Stræde, Store Strand Stræde and Den brede Gade (Fig. 318 and 325). Their extensions can fairly be based on the older *Jordebøger*. Lille Strand Stræde started approximately where Charlottenborg is today and Store Strand Stræde immediately east of Krinsen.

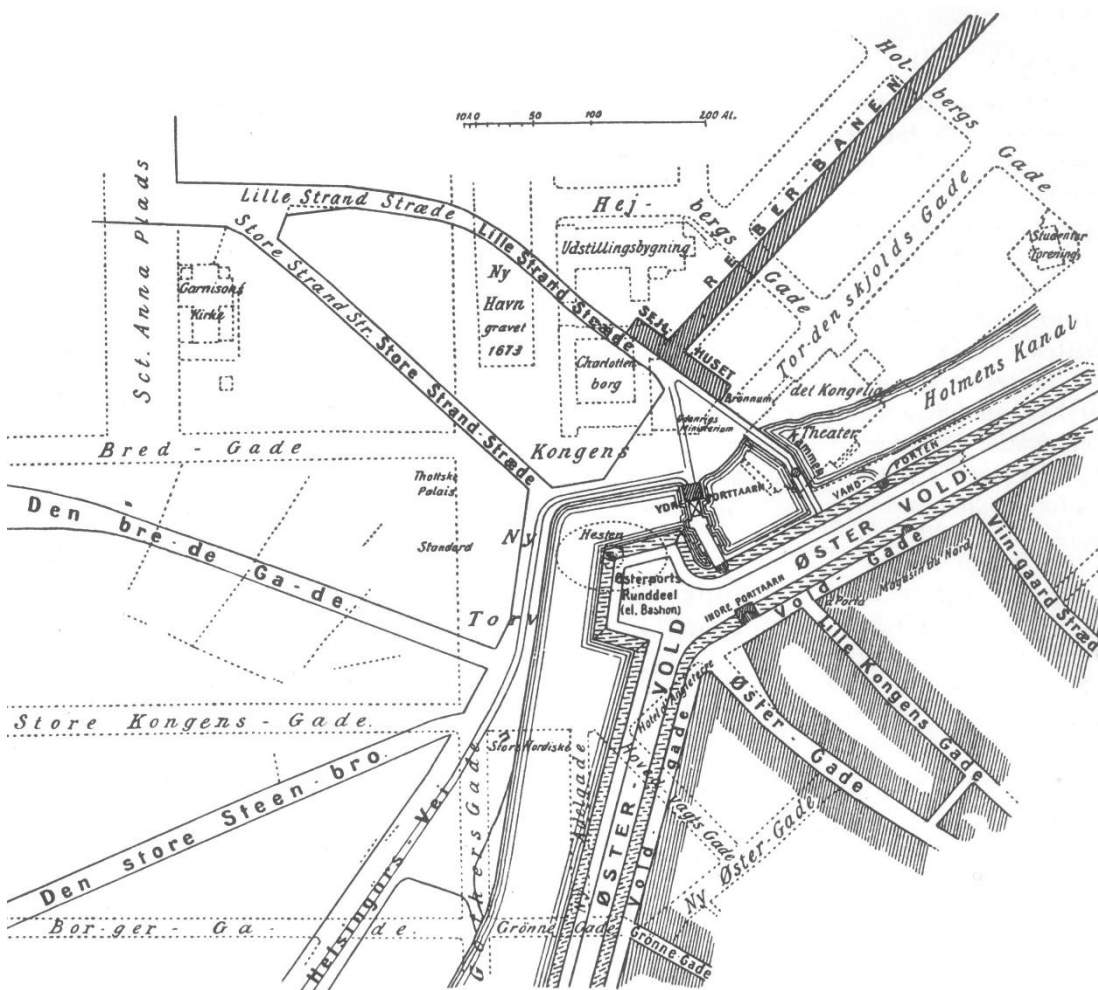


Fig. 325. Reconstruction map of the fortifications in 1611, by the later Kongens Nytorv. The map also shows the original main roads outside Østervold. Roads and fortifications are shown relative to the current street map. The map

was prepared by taxidermist C. Chr. Andersen in 1900 and turned over to the compass. From Hartmann & Hartmann, 1988:7 and Leen Jensen 2007:5.

Den brede Gade initially during the Middle Ages to have been a cattle road. In the late 16th century it was the broadest thoroughfare from Østerport. In the *Jordebog* from 1620 there is a list of all streets outside the gates with information about who owned the gardens and the houses. Along Bredegade near the moat there was a majority of booths and gardens. The street followed a curved line from the present corner of Gothersgade and Store Kongensgade down to Sankt Anne gade (KD I:611 et seq.; KD IV:363; Nielsen 1885:387 et seq.; Fleischer 2006).