



Archaeological investigations at Kuressaare castle and the harbour storehouse

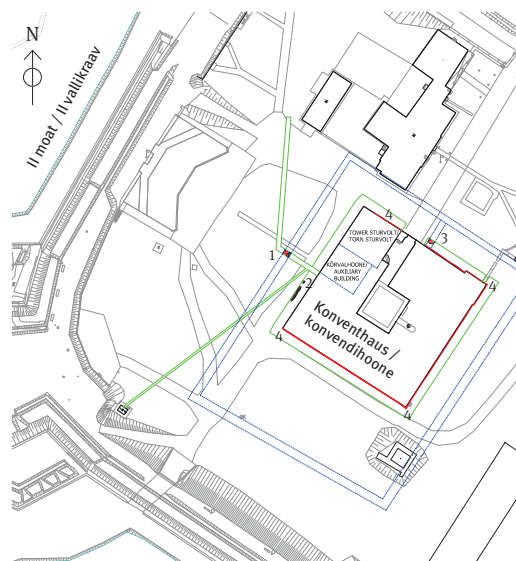
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ARCHAEOLOGICAL INVESTIGATIONS AT KURESSAARE CASTLE

Extensive building archaeological investigations were conducted by the author of the present article at the Kuressaare castle of Saare-Lääne prince-bishopric (in contemporary sources *Episcopatus Osiliensis*) from October 2022 to February 2023 in conjunction with restoration work on the lower storey of the *Konventhaus* and the installation of new outdoor pipelines. In the initial phase of the investigations, a walled-off well was found in the lower storey wall of Sturvolt Tower (see Püüa 2023; Püüa & Sepp 2023). Previous research on the prince-bishop’s castle is summarised in a monograph published in 2016 (Püüa *et al.* 2016) and those themes will not be elaborated on further in this article.

The fieldwork is divided into two large research areas (see Püüa & Jonuks 2023). Research area no. 1, the outdoor pipelines (Fig. 1), sums up the investigations in the area of the first outer bailey and the medieval moat. In the course of this work, the first storey of the *Konventhaus* was connected to the existing water supply pipelines and sewerage piping on the northwest side of the main castle. A new electrical cable was brought to the *Konventhaus* from the electrical substation located at the southwest corner of the medieval moat along the same trench. Additionally, hydroisolation consisting of a rubber membrane was installed on the *Konventhaus* foundation. The necessary excavation work involved the entire perimeter of the building.



- found walls / leitud müürid
- 1 – first curtain wall / esimene ringmüür
- 2 – foundation of the wooden building / puithoone vundament
- 3 – wall protecting the gate / väravat kaitsev müür
- 4 – protruding wall beneath the *Konventhaus* / eenduv müür konventihoone all
- border of the excavation / kaevandi piir
- - - presumable continuation of walls / müüride arvatav jätk

Fig. 1. Research area no. 1. Diagram of outdoor piping. Jn 1. Uuringuala nr 1. Välistrasside skeem. Drawing / Joonis: Garel Püüa

The necessary excavation work involved the entire perimeter of the building.

Research area no. 2 involved investigations on the *Konventhaus's* first storey, which has been reconstructed by now. This is where 22 relatively small test pits were made (Fig. 2). The aim of the pits was to document the *Konventhaus's* previous floors and pavings, and to search for datable material. Another objective was to ascertain the elevations of various constructions and to check their structural technical condition. In the course of fieldwork, 75 finds were collected, which originate from the 15th to the 19th centuries (SM 10938).

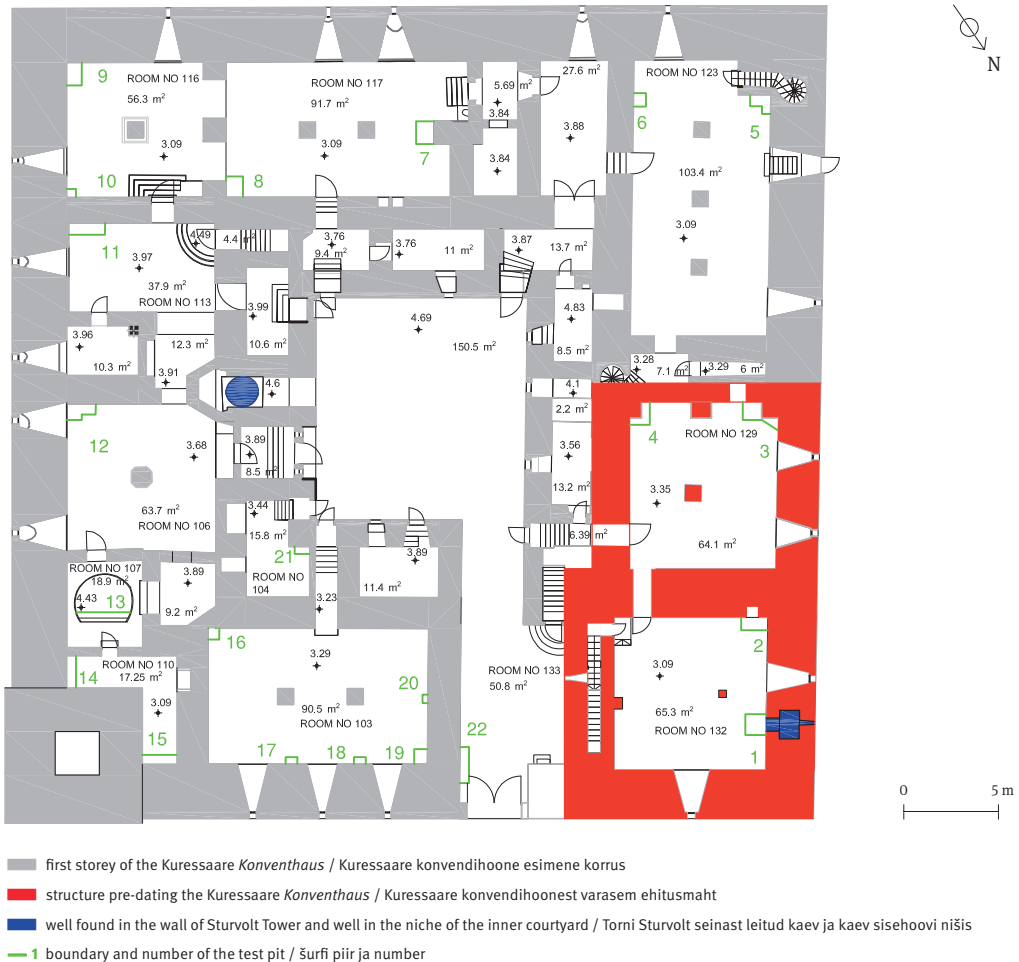


Fig. 2. Research area no. 2. Diagram of the locations of test pits 1–22 on the first storey of the *Konventhaus*.

Jn 2. Šurfade 1–22 asukohaskeem konvendihoone esimesel korrusel (uuringuala nr 2).

Drawing / Joonis: Garel Püüa

ON THE HISTORY OF THE CASTLE'S ORIGIN

Based on the field examinations conducted from 2010 to 2014, Kuressaare's original stone castle was a simple regular (43×43 metres) *castellum* (Alttoa & Püüa 2013, 64). A defence tower with living quarters named Sturvolt was similarly built in the northern corner of the curtain wall (Fig. 3A). Several buildings were probably erected in the courtyard. A small auxiliary building was constructed on the southwest side of Sturvolt (Figs 1, 3A). Construction

of the *castellum* is known to have begun after 1328 and the work was interrupted due to the last great uprising of the Saaremaa islanders (1343–1345, Altoo & Püüa 2013, 66).

A major change was later made in the construction plans. A *Konventhaus* was erected in the second half of the 14th century. Its outer walls are supported by the *castellum*'s earlier curtain wall (Püüa *et al.* 2013, 180–181). The Sturvolt defence tower was preserved in the northern corner of the *Konventhaus*, but the Pikk Hermann (Tall Hermann) tower was added at the eastern corner. The *Konventhaus* is a building that consists of four well-fortified wings where large hall rooms that meet the requirements of communal living dominate. It was most expedient to construct the quadrangular building block adjacent to the outer wall. This left an 11.1 × 11.6 m square inner courtyard in the middle. Together with the *Konventhaus*, a curtain wall and an outer bailey (Fig. 3B) with various buildings and workshops protected by a moat that was nearly 20 m wide were built around it (Püüa *et al.* 2013, 181; Püüa *et al.* 2012).

FIELDWORK OF 2022–2023

Research area no. 1 – outdoor pipelines

An approximately 2.5 m wide and 70 cm deep trench was dug around the building to install hydroisolation on the *Konventhaus* foundation. The surface area of the trench was 460 m². As a rule, the soil at that depth had been mixed in the course of earlier restoration activities and contained 20th-century construction residue and debris (Figs 1, 4).

A 15 to 30 cm plinth protruding from the wall at an elevation of 4.25 to 4.6 m a.s.l. on the northeast, southeast, and southwest sides of the *Konventhaus* was cleaned in the course of the investigations. This tallies more or less with the current ground surface elevation (Fig. 4). Only unhewn stones have been used in the lower part. On the other hand, blocks with chiselled surfaces are the material used above in the walls of the *Konventhaus*.

Based on Excavation no. XIV (2011), which was located on the *Konventhaus*'s southwest side facing the sea (Püüa 2012, 75), the

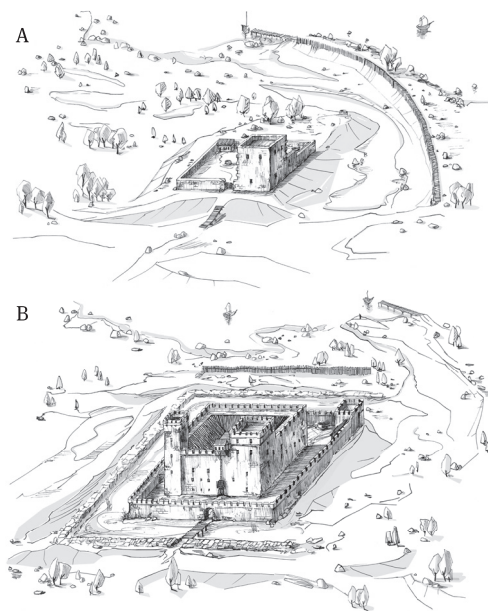


Fig. 3. Reconstruction attempts of the original Kuussaare stone castle, built in ca. 1328–1345 (A) and a *Konventhaus* that was erected in the second half of the 14th century (B).

Jn 3. Kuussaare algse (ehitatud u 1328–1343) kivilinnuse (A) ja 14. sajandi teisel poolel püstitatud konventihoone (B) rekonstruktsioonikatsed.

Reconstruction / Rekonstruktsioon: Kristo Kooskora



Fig. 4. View of the protruding foundation wall built of unhewn limestone on the southwestern side of the *Konventhaus*.

Jn 4. Vaade konventihoone edelaküljel eenduvale murtud paekivist alusmüürile.

Photo / Foto: Garel Püüa



Fig. 5. Southern corner of the Konventhaus. The transition from the right-angled foundation wall to the rounded exterior corners of the Konventhaus with concave facets resembling a pyramid takes place without any intermediate articulation.

Jn 5. Konvendihooone lõunanurk. Üleminek täisnurkselt alusmüürilt konvendihooone nõgusate tahkudega püramiidi meenutavatele ümardatud välisnurkadele toimub ilma igasuguse vaheliigenduset.

Photo / Foto: Garel Püüa



Fig. 6. In excavation XIV from 2012, the southwestern side of the Konventhaus was supported by a previously existing wall that was nearly three metres tall, which protruded in stepped fashion from the wall of the Konventhaus.

Jn 6. 2012. a kaevandis XIV toetus konvendihooone edelakülg varasemale pea kolme meetri kõrgusele müürile, mis eendus astmeliselt konvendihooone seinast.

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pavement laid around the protruding foundation wall was approximately 120–140 cm lower than the *Konventhaus*'s wall made of blocks with chiselled surfaces.¹ Based on find material, the medieval courtyard ground surface of the 1st outer bailey remained at the same elevation in the 17th century. Thus, the wall made of unhewn stones was not the foundation of the *Konventhaus* hidden beneath the surface soil, but rather a visible socle zone that extended to a height of nearly 140 cm. The transition from one material to the other is without any kind of intermediate articulation (Fig. 5). Thus, it is unlikely that this is an intentional contrasting of wall textures from the time of the construction of the *Konventhaus*. Instead, the nearly 3-metre-high socle zone² likely originates from a wall that was built earlier and it is evidently the curtain wall of the *castellum* (Fig. 6).

Verified information on a similar 3-metre-high *castellum* curtain wall is also known from the southeast side of the *Konventhaus* (Aluve 1970, drawings: sheet 12, shaft 3, section A–B). The *castellum* wall was probably even taller before the construction of the *Konventhaus*. When the *Konventhaus* and the 1st outer bailey were designed, it was planned to raise the very uneven natural ground surface to today's elevation and the earlier *castellum* wall was dismantled to reduce it to the appropriate level. Examinations have indicated that the direction of the walls has also been corrected to some extent in several places in the course of the construction work (Püüa & Jonuks 2023, 17).

Only the northwestern side of the *Konventhaus* is an exception, where the protruding foundation wall described above is missing. This is the *castellum*'s naturally tallest side.³ There the curtain wall was connected directly to a taller structural element (Sturvolt Tower and its auxiliary building, see Figs 2, 3A). Thus, a plinth did not transpire on the northwestern side at the later *Konventhaus* construction stage.

¹ The elevation of the pavement is 2.8–3.07 m a.s.l.

² The elevation on the wall is 4.07 m a.s.l. and beneath the wall, the elevation is 1.46 m a.s.l. The wall's foundation is built into a natural clay layer.

³ Limestone is known to be at a 3 to 4 m higher elevation on the northwestern side of the convent building than on its southeastern and southwestern sides. Sturvolt Tower is built on natural limestone, the elevation of which is 2.2 to 2.3 m a.s.l.

How tall might the *castellum*'s curtain wall have been? Massive binding stones, which were already put in place at the time of the tower's construction, can be seen at the eastern and western corners of Sturvolt. The northwestern and northeastern walls of the *Konventhaus* were later connected to the binding stones extending out from Sturvolt's wall surface that were meant for anchoring the wall of the next construction stage. There is no contact between the tower and the adjacent wall on the northeast side of the *Konventhaus* above the current ground surface to an extent of about 3.5 metres. The binding stones appear beside the gate at an elevation of 8.3 m a.s.l. (Fig. 7). Upright limestones placed at the tower's corner near the ground surface suggest that Sturvolt's eastern corner was restored to the height of the first binding stone (from the gate) after the *castellum* wall had been reduced in height through partial dismantling and before construction of the *Konventhaus*'s wall. This could be indicative of the completed height of the northeastern side of the *castellum* wall. However, this is only a hypothesis.

What do we know about the elevation of the *castellum*'s inner courtyard? The natural limestone stratum extends up altogether to 3.3 m a.s.l. in the inner courtyard beside the *Konventhaus*'s gate (Fig. 2: 22), which largely determines the earlier ground surface inside the *castellum* (Püüa & Jonuks 2023, 34). This elevation tallies more or less with the floor elevations of many of the *Konventhaus*'s first storey rooms (Fig. 2), where the stone floor was laid on a well-compacted base of limestone rubble and clay. The presumed elevation of the *castellum*'s courtyard was several metres higher than some places in the surrounding landscape beyond the curtain wall, considering natural conditions. Based on such information, the *castellum* wall on the northeastern side could have extended up to 5 m higher than the natural limestone.

In the course of work on the pipelines, remains of the 1st curtain wall were ascertained at a distance of 10.15 m (the width of the 1st outer bailey) on the northwestern side of the *Konventhaus* (Figs 1: 1, 3B). It is known that the 2-metre-thick curtain wall had suffered the greatest amount of damage during the Early Modern Period precisely on the northwestern side and the debris from its demolition was apparently used to fill the medieval moat. A mixed layer of lime mortar, which had settled against the *Konventhaus* as well as the inner



Fig. 7. The vertical joint on the northeastern side of the *Konventhaus* between Sturvolt Tower (on the right) and the wall of the *Konventhaus* extends to the lantern. The binding stones protruding from the tower's corner can be seen higher up. The upright limestones placed at the tower's corner near the ground surface suggest that the eastern corner of Sturvolt was restored after the *castellum* wall had been demolished to a lower height.

Jn 7. Püstvuuk konvendihoone kirdeküljel torni Sturvolt (paremal) ja konvendihoone seina vahel ulatub lanternani. Kõrgemal on näha torni nurgast eenduvaid sidekive. Maapinna lähedal torni nurka paigutatud püstised lubjakivid viivad mõttele, et Sturvolti idanurk on pärast kastellimüüri madalamaks lammutamist taastatud.

Photo / Foto: Garel Püüa

side of the 1st curtain wall, was at the bottom of the excavation. This is the probable elevation of the ground surface in the 15th century after the completion of the *Konventhaus*.⁴ The current ground surface is at an elevation that is 1.3 m higher.

In addition to the 1st curtain wall, the foundation of a light, 5 to 7 m long wooden building that was situated in a northeast-southwest orientation was found on the northwestern side of the *Konventhaus* (Fig. 1: 2). The foundation consisted of a row of limestones simply laid out on the ground surface without any bonding agent. Its maximum width was 35–40 cm. The foundation likely originates from the 19th or 20th century.

A wall built of limestones and field stones using lime mortar running northeast–southwest that intersects with the *Konventhaus* came to light from the east side of the *Konventhaus*'s gate (Fig. 1: 3). Its thickness was measured as 1.8 m. A section of that same wall was seen in the course of pipeline work that was carried out in 1993–1995 (Sepp 1996, 4–5). The wall was built against the inner side of the 1st curtain wall and probably protected the road leading to the *Konventhaus* in the 1st outer bailey, and the gate of the *Konventhaus* (see Fig. 3B).

Research area no. 2 – the first storey of the *Konventhaus*

Research area no. 2 covered investigations on the first storey of the *Konventhaus*, where 22 relatively small test pits were dug with a total surface area of 16.1 m² (Fig. 2).

According to current knowledge, the eastern corner of the *castellum* was demolished in the course of constructing the *Konventhaus*, and Pikk Hermann Tower was built on an autonomous foundation. Of the building structures that already existed earlier, in addition to Sturvolt Tower together with its auxiliary building, the curtain wall, which was up to 3 metres tall, was preserved beneath the *Konventhaus*. That curtain wall was demolished to the elevation of the present-day ground level. Insofar as the transition from the *castellum* wall



Fig. 8. Test pit no. 19. The foundation of the interior side of the room's northeastern wall (the *Konventhaus*'s exterior wall, on the right) beside the gate is at an elevation of 3.22 m a.s.l. The room's original floor was situated at more or less the same elevation as the current floor.

Jn 8. Šurf nr 19. Ruumi kirdeseina (konventihoone välissein, paremal) sisekülg värava kõrval on vundeeritud kõrgusel 3,22 m ümp. Ruumi algne põrand asus praegusega enam-vähem samal kõrgusel.

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to the wall of the *Konventhaus* (at the elevation 4.25–4.6 m a.s.l.) on the first storey of the *Konventhaus* is indistinguishable, it can be assumed that the wall was made thicker on its inner side in the course of a later construction stage. Room no. 103 on the northeastern side of the *Konventhaus* (Fig. 2: 17–19) is indicative of this. There the inner side of the outer wall is founded on limestone rubble (at the elevation 3.1–3.3 m a.s.l.) and the room's original stone floor partially extends beneath the wall (Fig. 8). In strengthening the walls at the naturally highest point, they were probably not built into the limestone and the earlier courtyard surface of the *castellum* was used.

In most of the *Konventhaus*'s first storey rooms, the existing floor from 1985 was more or less at the elevation of the original stone floor⁵ (see Fig. 2). Clay and limestone

⁴ Elevation 2.4–2.6 m a.s.l.

⁵ The greater portion of the floors of the *Konventhaus*'s first storey are at elevations in the range 3.1–3.4 m a.s.l.

rubble that had been dug out in building the foundation of the curtain wall was probably used as filler soil for the base of the floor. The well-compacted layer of filler can be associated with the courtyard of the earlier *castellum*, which was covered by patches of lime mortar that had fallen to the ground in the course of later construction work (see Fig. 8). It is possible that the strong base layer initially functioned as the floor on the lower storey of the *Konventhaus*, but no significant cultural layer accumulated in any of the rooms.

Two shafts (Fig. 2: 14–15) were dug in room no. 110 on the inner side of both outer walls of the isolation shaft surrounding Pikk Hermann Tower. An isolation shaft that runs through all storeys separates Pikk Hermann from the rest of the rooms of the *Konventhaus*. The only access to the tower was by way of a drawbridge from the historical main storey. A nine-metre-high cellar room without any openings forms the first storey of Pikk Hermann. This room is accessible only by way of a hatch situated above. Even now, the only entrance to the five-storey tower is at a height of 10 m from the ground surface and leads to the tower's second storey (Fig. 9). The tower's three upper storeys are supplied with fireplaces. They were apparently meant as the last refuge if enemies gain entry into the main castle. Several dry toilets opened up into the shaft, which was also used as a dump for trash, into which food waste was thrown.

From this, the question arises of how the toilet shaft was emptied. It would have been easiest to do that by way of an opening connecting the room to the outer bailey and the moat. Archaeological investigations gave no indication of such an opening. The original clay floor of the rubbish shaft is at its current elevation (about 2.7–3 m a.s.l.) and the room has been emptied of the waste in the course of previous restoration work.



Fig. 9. The isolation shaft surrounding Pikk Hermann Tower (on the right). One of the toilets opening up into the shaft can be seen on the left. Even nowadays as well, access to the tower is by way of a wooden bridge, the base of which is at a height of 9.7 m.

Jn 9. Tornii Pikk Hermann (paremal) ümbritsev isolatsioonisaht. Vasakul on näha ühte šahti avanevatest käimlatest. Pääs torni kääb ka tänapäeval puidust sil-la kaudu, mille põhi asub 9,7 m kõrgusel.

Photo / Foto: Garel Püüa

INVESTIGATIONS IN KUSSAARE'S OLD HARBOUR STOREHOUSE

In addition to the extensive fieldwork at the Kuussaare castle in 2023, archaeological investigations were also carried out at Veski Street 9 (Püüa 2024). This work was necessitated because of the renovation of the historical storehouse building, which had stood mostly vacant over the last decades (Fig. 10). The storehouse's old floors were opened up, several outdoor pipelines were built for the property, and a small annexe was erected in place of a demolished office building that had previously stood at the building's northern end (Fig. 11: 5). The surface area of the excavations was roughly 530 m² in total. The 17th–19th century artefacts emerging from fieldwork (SM 10946) originate from the indoor spaces of the storehouse without exception.

According to generally accepted knowledge, the harbour storehouse was built in Kuussaare in 1663 and it is one of the oldest surviving buildings in the town alongside the weigh house and the town hall. The Baltic German regional historian Martin Körber probably

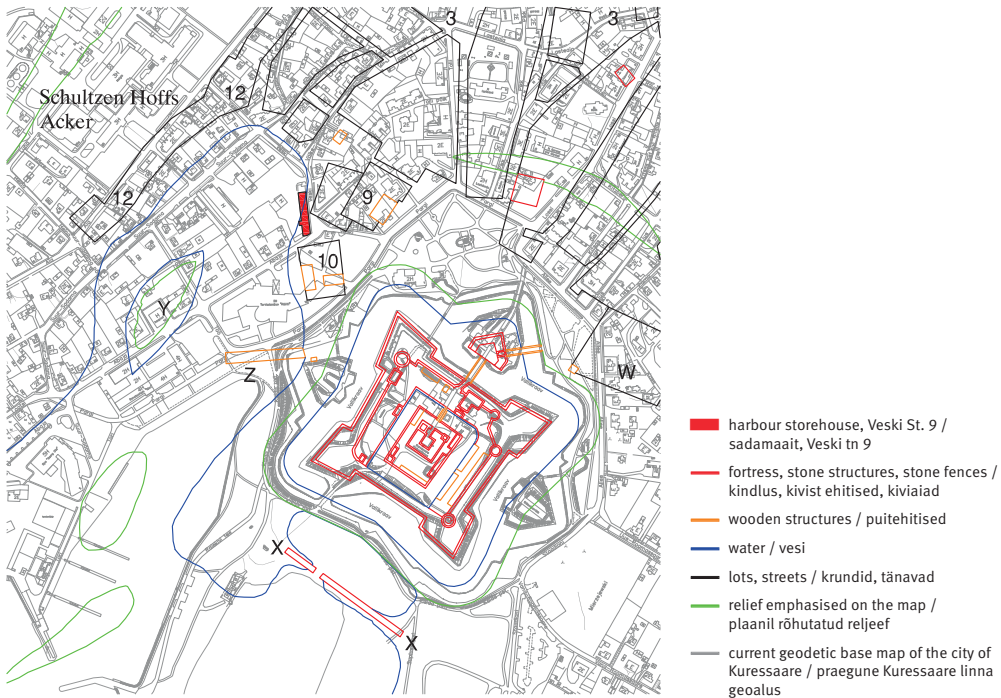


Fig. 10. Superimposition of the first Kuressaare town plan (1681) with its present-day geodetic base map. The numbers correspond to the 1681 plan. 3 – market squares, 9 – house and garden of lighthouse inspector Hans von Stegeling, 10 – house and garden of Mayor L. Broberg, 12 – bare plots of land belonging to residents and peasants, W – governor's garden, X – dam made of stones / breakwater, Y – large holm / rocky islet in the sea, Z – ship pier.

Jn 10. Esimese Kuressaare linnaplaani (1681) kokkutõste tänase geoalusega. Numbrid vastavad 1681. a plaanile. 3 – turuplatsid, 9 – tuletornide inspektori Hans von Stegelingi maja ja aed, 10 – linnapea L. Brobergi maja ja aed, 12 – elanike ja talupoegade lagedad maatükid, W – kuberneri aed, X – kividest laotud tamm / lainemurdja, Y – suur holm / kivine laid meres, Z – laevasild.

Base map / aluskaart: KrA 0406:28:002:015, Drawing / Joonis: Garel Püüa

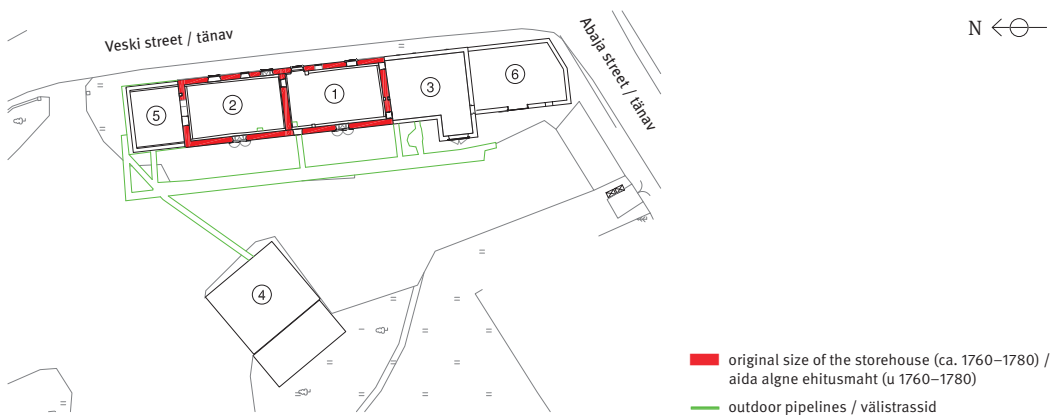


Fig. 11. Diagram of the various construction stages of the harbour storehouse. 1 – room no. 1, 2 – room no. 2, 3 – steam mill, 1870, 4 – former oil storehouse, about 1927, 5 – office, 1932, 6 – annexe, 1951–1958.

Jn 11. Sadama kaubaaida erinevate ehitusjätkude skeem. 1 – ruum nr 1, 2 – ruum nr 2, 3 – auruveski, 1870, 4 – endine õililadu, u 1927, 5 – kontor, 1932, 6 – juurdeehitis, 1951–1958.

Drawing / Joonis: Garel Püüa

laid the basis for this opinion nearly 140 years ago (Körber 1887, 3). The dating of the storehouse is based on an ashlar marked with that year, which was found in a wall of that building. This has dominated in later academic literature (Blumfeldt 1934, 818; Miller 1959, 265–266; Künnapu 1996; Basihhina & Hansar 1999, 11 & 43; Püüa 2018, 306; Altkoa *et al.* 2019, 261). Upon closer examination, it can nevertheless be said that the ashlar bearing the date, which was laid upside down in the wall at the northeast corner of the storehouse, is more likely secondary and was added to the building later (Fig. 12).

Based on archival information, it can be said that a ‘stone storehouse’ is already pointed out as a separate unit in the list of Kuressaare town lots from 1786 (RA, EAA.311.1.907) and an explanatory note has been added that it is located in a place/lot where a tavern named *Tillo Krug* was previously situated. A ‘tavern’ is listed in the list from 1776 and ‘Stein. Klete’ was also listed under the same number. In the first half of the 18th century, the object of purchase and sale was only the wooden tavern – *Tillo Krug* or *Tillo Krugs Platz* (RA, EAA.1005.2.12). Thus, it can in summary be said that the harbour storehouse was probably built in the 1760s to 1780s and that a wooden tavern building was marked on 18th-century maps of Kuressaare previously.

Overview of the history of the harbour storehouse

By the time the storehouse had been completed in the second half of the 18th century, foreign trade was gradually losing its former importance because only salt was permitted to be imported from abroad to Kuressaare. Other necessary import goods had to be acquired from the local merchants residing on the mainland. The silting of Kuressaare harbour also hindered the development of maritime trade because larger ships were forced to anchor near the coast. Goods were taken to the harbour or from there to ships by bargemen. According to notification (1760) from Saaremaa’s superintendent (1750–1784) Leonhard Swahn, 30 to 40 ships visited Kuressaare yearly and they mostly departed with grain cargoes (Blumfeldt 1934, 822).

The storehouse with a gable roof that was built on the shore of Tori Inlet originally consisted of two large rooms (Figs 11: 1, 2; 13), primarily for storing grain that was to be exported from Saaremaa. The oldest surviving wall sections of the storehouse were built of unhewn limestone, where the binding agent is clay mortar, characteristic of Kuressaare.



Fig. 12. Hewn stone inscribed with the year 1663 placed upside down in the northeastern corner of the harbour storehouse wall.

Jn 12. Sadamaaida kirdenurgas tagurpidi seina müüritud raidkivi aastaarvuga 1663.

Photo / Foto: Garel Püüa



Souvenir d'Årensbourg. Gruss aus Årensbourg.

Fig. 13. View of the southern part of the harbour storehouse (below), of the new mud baths (on the right), and the newly renovated Konventhaus in ca. 1912.

Jn 13. Vaade sadamaaida lõunapoolsele osale (all), uuele mudaravilale (paremal) ja vastremonditud konventihoonele u 1912.

Photo / Foto: Otto Eduard Buhgan, SMF 4164: 15

As previous fieldwork has shown (Sepp 2005), the old building was comprehensively renovated at the same time or probably already somewhat earlier. The building's southern end wall and the gables of the partition wall and northern end wall were completely rebuilt. Additionally, the tops of the warehouse's side walls, and the southwestern and northwestern corners of the wall facing the courtyard were renovated. All of the window openings and door openings also show traces of breaking (Sepp 2005, 4). The windows and doors nevertheless could also have been reduced or enlarged later or earlier. It is possible that the harbour storehouse was given a new board floor in the steam mill period (Fig. 14), which was better suited than its previous damp stone floor for storing grain and flour. The steam mill was known as Schmidt's Mill after its owner's name, and it operated at the warehouse until 1904 (Koppel 2021, 121).



Fig. 14. The wooden floor preserved in room no. 2 might originate from the 19th century.

Jn 14. Ruumis nr 2 säilinud puitpõrand võib pärineda 19. sajandist.

Photo / Foto: Garel Püüa

In 1905, Oscar Friedrich Wildenberg (1852–1928), the owner of the neighbouring leather factory, became the new owner of the building. In 1925, Oscar Wildenberg sold the harbour storehouse and the lot that accompanied it to the Kuressaare branch office of the Eesti Tarbijate Keskühisus (ETK, Central Association of Estonian Consumers) (Sepp 2005, 7). The building became an ETK warehouse. An auxiliary stone building was erected in the courtyard. It was completed as an oil storehouse based on design plans from 1927 (Fig. 11: 4). The next major construction project was carried out in 1932 when an office building was built in front of the warehouse's northern end wall (this building was demolished in the mid-1990s).

The Estonian ETK office moved into the newly completed building in 1933 (Fig. 11: 5). Another part was added to the building on the south side of the storehouse in the interval 1951–1958 and it was extended to Abaja Street (Fig. 11: 6). The building was sold to a buyer from the private sector in 1993.

Investigations in the historical harbour storehouse

The previous floors were removed in two rooms of the older part of the harbour storehouse (Fig. 11: 1, 2), and digging proceeded 50–60 cm deeper than the existing wooden floor (at an elevation of 2.04 m a.s.l.). The dimensions of the floorboards that were removed were mostly 430 × 16.5–21 × 6 cm. The relatively well-preserved floor could already have been built together with the steam mill at the end of the 19th century. Timbers that were prevalingly in secondary use (burned, cut in pieces) were used as foundation beams. Part of the previous stone floor had been removed to enable the installation of those beams (Fig. 15).

In both rooms, there was a 5–10 cm thick layer of sand mixed with soil beneath the plank floor covering the storehouse's probably original limestone floor, which was laid at the end of the 18th century. The filler layer contained a few animal bones and artefacts dated to the 17th–18th centuries (SM 10946: 7–19). As a rule, the dimensions of the floor slabs were 33 × 33 × 7–9 cm (one foot), 33 × 65–67 × 7–9 cm (two feet), and their bottom surface was rough and unhewn (Fig. 15).



Fig. 15. View of the original 18th-century stone floor of room no. 1 in the harbour storehouse (dimensions 8.9×15 m, ceiling height 5.15 m) that intersects with the foundation beams of the later 19th-century plank floor. Veski Street is at the upper edge of the photograph.

Jn 15. Vaade sadamaaaida ruumi nr 1 (mõõtmed $8,9 \times 15$ m, lae kõrgus 5,15 m) algele 18. sajandi kivipõrandale, mida lõikavad hilisema 19. sajandi laudpõranda aluspalgid. Veski tänav jääb foto ülemisse serva.

Photo / Foto: Aivo Põlluäär

The limestone floor was embedded on an approximately 10 cm thick sand layer. The elevation of the floor slabs was in the 1.8–2.05 m range a.s.l. since some of the floor slabs had settled to a lower elevation. The stone floor was removed, and the historical floor slabs were reused in the course of the restoration project.

A test pit with a surface area of approximately 0.7 m^2 was dug in the northwestern corner of room no. 1 (Fig. 11: 1). It turned out that an approximately 30 cm thick cultural layer that predates the construction of the storehouse had been partially preserved beneath the stone floor. Finds originating primarily from the 18th century were obtained from that layer (SM 10946: 2–6), among others a *denga* copper coin from the reign of Empress Elizabeth I (Yelizaveta Petrovna, 1741–1762) originating from 1751 (SM 10946: 3). The presumably natural clay layer began in room no. 1 at an elevation of 1.25 m a.s.l.

The stone floor was less worn in the northern part of room no. 2 and unlike the rest of the room, the later plank floor was situated in the east-west direction (Fig. 14). A test pit with a surface area of approximately 0.4 m^2 was dug adjacent to the western wall of room no. 2 (Fig. 11: 2). It turned out that an approximately 30 cm thick cultural layer that predates the construction of the storehouse had been preserved beneath the stone floor in this room as well. Finds originating primarily from the 18th century were obtained from the cultural layer beneath the stone floor (SM 10946: 20–30), including a *denga* copper coin from the reign of Elisabeth I (Yelizaveta Petrovna) (1750, SM 10946: 20). The presumably natural clay layer began at an elevation of 1.3 m a.s.l.



Fig. 16. A 60–70 cm thick dark reddish layer saturated with tanning agent is visible beneath the gravelly courtyard fillings. This was found throughout the property.

Jn 16. Kruusaste hoovitäidete all on näha 60–70 cm pak-sust tumedat-punakat parkimisaine kihti, mida leidus kogu kinnistul.

Photo / Foto: Garel Püüa

A sewerage and stormwater pipeline was installed on the western side of the harbour storehouse. The depth of the trench dug for this purpose was 130–150 cm (Fig. 11). A layer containing sawdust and tree bark mixed with dark reddish tanning agent associated with the operations of the Wildenberg leather factory at the end of the 19th century and the start of the 20th century was found in all places beneath the present-day gravelly courtyard fillers (Fig. 16).

The tanning agent layer was thicker in the southern part of the property (up to 70 cm), decreasing to 20 cm in the northern part of the property. As a rule, this had settled on a mixed layer of clay that contained coal, wood, lime mortar, and pieces of roof tile and bricks. It also contained a few fragments of

transferware plates from the 19th and 20th centuries. The presumable elevation of the natural clay layer was in the range of 0.75–1.2 m a.s.l.

THE OUTCOME OF THE RESEARCH IN 2023

In all, the results of the fieldwork in 2023 added new important data on the development of the Kuressaare castle and helped to correct the previous assumptions on the building date of the Modern Period harbour storehouse. In the castle, the building details of the first (*castellum*) and the second (*Konventhaus*) stage of the fortification were elaborated, including the height of the walls of the *castellum*. Inside the *Konventhaus*, it is certain now that the medieval floor level of the first storey existed more or less at the same elevation as the current floor. The well-compacted layer of filler soil below the floor might be associated with the courtyard of the earlier *castellum*, which was covered by patches of lime mortar that had fallen to the ground in the course of later construction work.

At Veski Street 9, we can now say that the Kuressaare harbour storehouse was most likely built in the 1760s to 1780s, and not in 1663 as was suggested earlier. Archaeological investigations affirmed that the storehouse has had at least two floors: the limestone floor was probably built together with the storehouse in the latter half of the 18th century and the wooden floor was evidently built at the end of the 19th century.

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UURINGUD KURESSAARE PIISKOPILINNUSES JA SADAMAIDAS

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2022.–2023. aastal toimusid Kuressaare piiskopilinnuses mahukad ehitisarheoloogilised uuringud, mis olid seotud konvendihooone alumise korruse restaureerimistöödega ning uute välistrasside rajamisega (jn 1–2). Varasemate väliuuringute põhjal oli Kuressaare algne kivilinnus lihtne korrapärane (43 × 43 meetrit) ringmüür ehk *castellum*, mille põhjapool-sesse nurka ehitati kaitse- ja elutorn Sturvolt (jn 3A) ning tõenäoliselt ehitati hoovi mitmeid hooneid. Sturvolti edelaküljele rajati väiksem kõrvalhoone (jn 1: 3). Teadaolevalt algas kastell-linnuse ehitamine pärast 1328. aastat ning tööd katkesid seoses saarlaste viimase suure ülestõusuga (1343–1345). Ülestõusu järgselt toimus ehituskavades suur muutus. 14. sajandi teisel poolel püstitati konvendihooone, mille välisseinad toetuvad varasema kastelli ringmüürile. Ringmüüri põhjanurgas säilis kaitsetorn Sturvolt, kuid konvendihooone idanurka lisati torn Pikk Hermann. Koos konvendihooonega rajati selle ümber ringmüüri ja pea 20 m laiuse vallikraaviga kaitstud eeslinnus (jn 3B), kus asusid erinevad hooned ja töökojad.

Uute välitöödega puhastati konvendihooone kirde-, kagu- ja edelaküljel välja seinast 15–30 cm eenduv alusmüür, mille kõrguseks on 4,25–4,6 meetrit üle

merepinna (jn 4–6). Pea 3 m kõrgusena säilinud arva-tavas kastellimüüris on kasutatud üksnes murtud pin-naga kive. Seevastu ülalpool, konvendihooone seinas, on materjaliks tahutud pinnaga plokid. Kastellimüür ulatus enne konvendihooone ehitust tõenäoliselt veelgi kõrgemale. Konvendihooone ja I eeslinnuse kavandamisel planeeriti maapinna tõstmist tänasele kõrgusele ning varasem kastellimüür lammutati vas-tava tasemeni. Tegelikult jäi eeslinnuse hoovisillutis 15.–17. sajandil 130–140 cm madalamale. Erandlik on vaid konvendihooone loodekülg, kus eelpool kirjeldat-ud eenduv alusmüür puudub. Tegemist on kastelli looduslikult kõige kõrgema küljega, kus ringmüür ühendati kohe kõrgema ehitusmahuga (torn Sturvolt ja selle kõrvalhoone).

Sturvolti ida- ja läänenurgas on näha massiivseid sidekive, mis on paika pandud juba torni ehitamise ajal. Hiljem on Sturvolti seinapinnast välja ulatuvate ja järgmise ehitusetapi müüri ankurdamiseks mõeldud kivihammastega liidetud konvendihooone loode- ja kirdesein. Konvendihooone ees ehk kirdeküljel puudub praeguse maapinna kohal umbes 3,5 meetri ulatuses kontakt torni ja külgneva müüri vahel ning sidekivid algavad värava kaare kõrgusel (jn 7). Maapinna lähe-

dal torni nurka paigutatud püstised lubjakivid viivad mõttele, et Sturvolti idanurk on pärast kastellimüüri madalamaks lammutamist ja enne konvendihoonet seinat ehitamist esimese sidekivi (värava) kõrguseni taastatud. See võiks viidata kastellimüüri kirdekülje valmis jõutud kõrgusele. Tegemist on siiski pelgalt hüpoteesiga.

Konvendihoonet värava kõrval sisehoovis on loodusliku paekivi kõrguseks 3,3 m ümp, mis paneb ilmselt paika varasema kastelli hoovipinna (täna 4,7 m ümp). Paekivi kõrgus ühtib paljude konvendihoonet esimese korruse ruumide põrandakõrgustega, kus kivi põrand laoti hästi tihenenud paerähast ja savist alusele (jn 8). Oletatav kastelli hoovikõrgus jäi looduslike olusid arvestades ringmüüri tagusest maastikust kohati mitu meetrit kõrgemale. Nendele andmetele tuginedes võis kastellimüür kirdeküljel värava juures ulatuda paekihist u 5 m kõrgemale.

Enamikus konvendihoonet esimese korruse ruumides asus olemasolev, 1985. aastast pärinev põrand enam-vähem algse kivi põranda kõrgusel. Põrandaaluse täitepinna oli kasutatud tõenäoliselt ringmüüri vundamendi rajamisel välja kaevatud savi ja paerähka. Hästi tihendatud täitekihti võiks seostada varasema kastelli hoovipinnaga, mida katsid hilisemate ehitustööde käigus maha pudenenud lubimördilaigud.

2023. aastal toimusid arheoloogilised uuringud ka Veski tänav 9 asuval kinnistul, kus renoveeriti ajaloolist sadamaaida hoonet. Tori abaja kaldale ehitatud viilkatusega laohoonet koosnes algselt kahest suuremast ruumist ja oli mõeldud eeskätt Saaremaalt välja veetava vilja ladustamiseks (jn 11, 13–15).

Üldlevinud teadmise kohaselt valmis Kuressaare sadamaait 1663. aastal ning tegemist on linna ühe vanima säilinud hoonega. Tänapäevani laialt levinud

arvamusele pani tõenäoliselt aluse kodu-uurija Martin Körber pea 140 aastat tagasi, kes tugines hoone seinas leiduvale aastaarvuga raidkivile. Lähemal vaatlusel võib siiski öelda, et aida kirdenurgas tagurpidi seinat müüritud daatumiga kvaaderkivi on pigem sekundaarne ning hoonetele hiljem lisatud (jn 12). Arhiiviallikatele toetudes võib öelda, et sadamaait ehitati tõenäoliselt 1760.–1780. aastatel. Enne kivist kaubaaida rajamist seisid enam-vähem samal kohal puidust kõrtsihoone.

Lõppenud väliuuringud kahjuks arhiivimaterjalidele olulist täiendust ei pakkunud. Uuringute käigus selgus, et aidal on olnud vähemalt kaks põrandat. Paekivist põrand rajati tõenäoliselt koos aidaga 18. sajandi teisel poolel ja puitpõrand ilmselt 19. sajandi lõpus (jn 14–15). 18. sajandi kivi põranda all on osaliselt säilinud ligikaudu 30 cm paksune aida ehitamise eelne kultuurikiht, kust saadi valdavalt 18. sajandi esemeleide. Neist olid kõige paremini dateeritavad 1750. ja 1751. aastast pärinevad vaskmündid keisrinna Jelizaveta Petrovna valitsemisajast (1741–1762). Mündileidude põhjal võib arvata, et sadamaaita ei hakatud ehitama enne 1750. aastaid.

Sadamaaida hoovialale oli ladustatud parkimisainega segatud puukoori ja saepuru sisaldav Wildenbergi nahavabriku 19. sajandi lõpu ja 20. sajandi alguse tegevusega seotud kiht. See oli paksem kinnistu lõunaosas (kuni 70 cm, jn 16), kahanedes kinnistu põhjaosas 20 sentimeetrini. Parkimisaine kiht oli reeglina ladestunud segatud savikiht, kus leidis üksikuid 19.–20. sajandist pärinevaid trükimustriga fajansstaldrikute katkeid. Seega võib arvata, et 19. sajandi lõpuks seati varasema sadama kaubaaida hoonetesse auruveski, Wildenbergi nahavabriku tööstus ja veelgi hiljem rajati hoonesse kaubalaod.