



ARCHAEOLOGICAL INVESTIGATIONS IN KÜÜNI AND VANEMUISE STREETS IN TARTU

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From August to October 2009 the archaeologists of the MTÜ AEG conducted archaeological research at two objects in Tartu. In connection with the reconstruction of Küüni street archaeological monitoring took place in several trenches conditioned by the installation of the pipelines and cables of central heating, rainwater sewerage and electricity. In addition, investigations in relation to soil removal in the western part of Küüni street had to be carried out, since walls of boulders and bricks were exposed in the depth of less than 50 cm from the present ground. In connection with the construction of a building at Ülikooli 2 archaeological monitoring took place in the trenches for the pipelines along the streets of Ülikooli and Vanemuise.

THE RECONSTRUCTION OF KÜÜNI STREET

The work connected with the first reconstruction stage of Küüni street was predominantly concentrated between the Town Hall Square and Poe street, in addition shorter sections of trenches were dug west and east from the crossing of the streets Küüni and Poe (Fig. 1: a). Two main tasks were set to the archaeological studies – first, archaeological monitoring within the boundaries of the heritage protection area of the Tartu Old Town, and second, determination of the construction front from the Middle Ages and the period after the Great Fire in 1775 that will be marked on the street in the course of the reconstruction.

The line of the buildings of the western side of Küüni street has remained the same since the establishment of the area of medieval stone houses, basically coinciding with the construction front at the western edge of the contemporary Küüni street (Piiroits 1995, fig. 8). The construction front of the eastern side of Küüni street has changed several times in the past, shifting gradually towards the river.

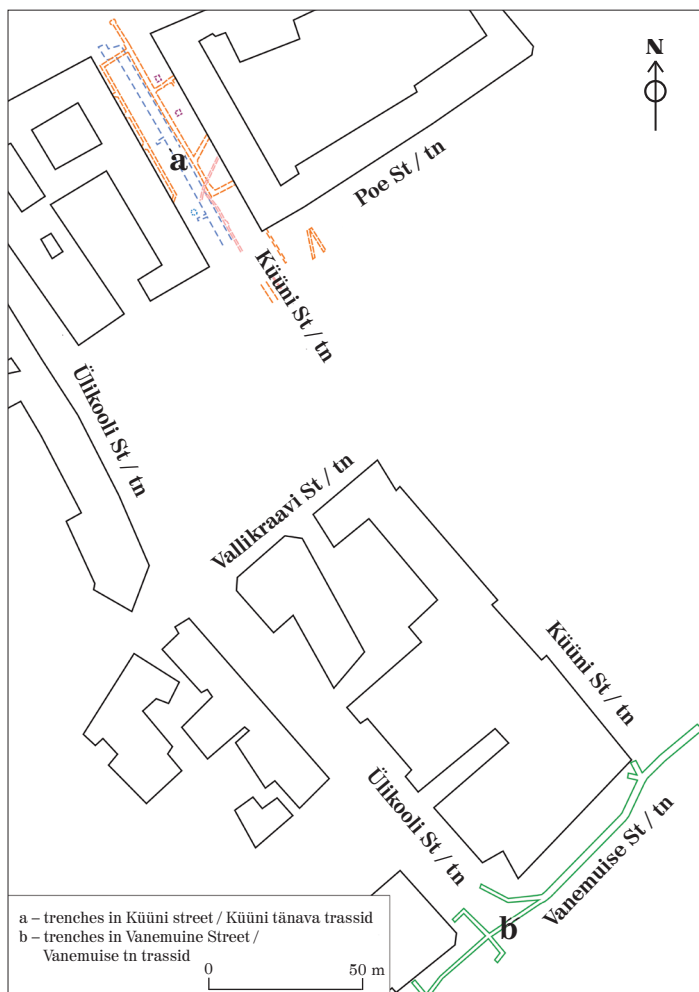
Construction front after 1775

The construction front of the eastern side of Küüni street established after the Great Fire of 1775 and preserved until 1944 can be connected with the diversely laid foundation of boulders exposed in the eastern excavation wall during the renovation of the central heating pipeline in the middle of Küüni street (Fig. 2: 1). The distance of the destroyed construction front from the western edge of the present street was 10.48 m in the southern end of the main trench and 10.20 m in its northern end.

Fig. 1. The general plan of the trenches in Kūüni and Vanemuise streets.

Jn 1. Kūüni ja Vanemuise tänavate trasside üldplaan.

Drawing / Joonis: Andres Tepper



Construction front before 1775

Installation of the central heating pipeline revealed the walls marking the construction front preceding the Great Fire of 1775 in the northern end of the excavation and the central area of the pipeline (Fig. 2: 3: a–b). In both cases installation of an earlier water pipeline had severely demolished the north–south directed walls. Nevertheless, the western edge of both walls could be documented, the distance of the wall in the northern end of Kūüni street was 7.25 m and 7.20 m in the trench measured from the western side of the contemporary Kūüni street.

Next to the wall fragments detected in the trench for the central heating pipeline the construction front preceding the Great Fire of 1775 can be more clearly distinguished in the western side of Kūüni street, slightly south from the central part of the section between the Town Hall Square and Poe street (Fig. 2: 3: c–d). Soil removal exposed north–south directed walls laid of boulders and bricks in the area. The northern

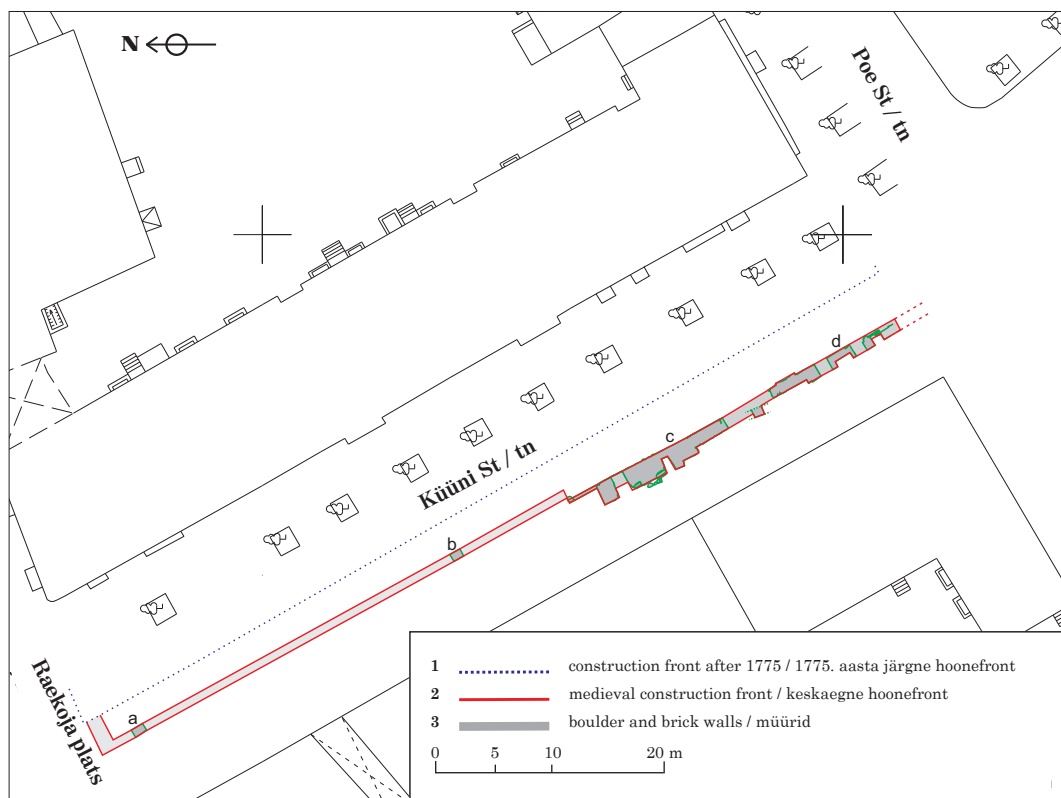


Fig. 2. Construction fronts in Kūüni street.

Jn 2. Kūüni tänava hoonefronidid.

Drawing / Joonis: Andres Tepper

wall (Fig. 3: 4: a) belongs to a building destroyed in the Great Fire, it is a boulder wall bound with lime mortar (Fig. 4: a) with its inner side properly laid of bricks (the size of bricks $9/10 \times 14/15 \times 30$ cm). The thickness of the wall in the southern end is 100–105 cm, however, towards the north the western protrudings of the wall can be seen that made the thickness of the wall in places extend to 1.6 m. The preserved building remains have a more distinguishable 85 cm wide stepped opening for light, an alcove covered with cobblestones that has been created from a bricked-in (door) opening, and a doorway with a threshold (Fig. 5). In the edges of the threshold there are boulders with 22 cm wide carved-in gutters that were probably meant to fix the wooden threshold. Altogether the preserved wall could be followed in the length of 11 m. The width of the street preceding the Great Fire of 1775 at the given spot is about 4.5–5.1 m.

Medieval constructions

Depressions connected with different construction stages could be detected in the test pit dug in the southern end of the remains of the boulder wall. The earliest establishment time of the house can be associated with the first stone buildings erected directly

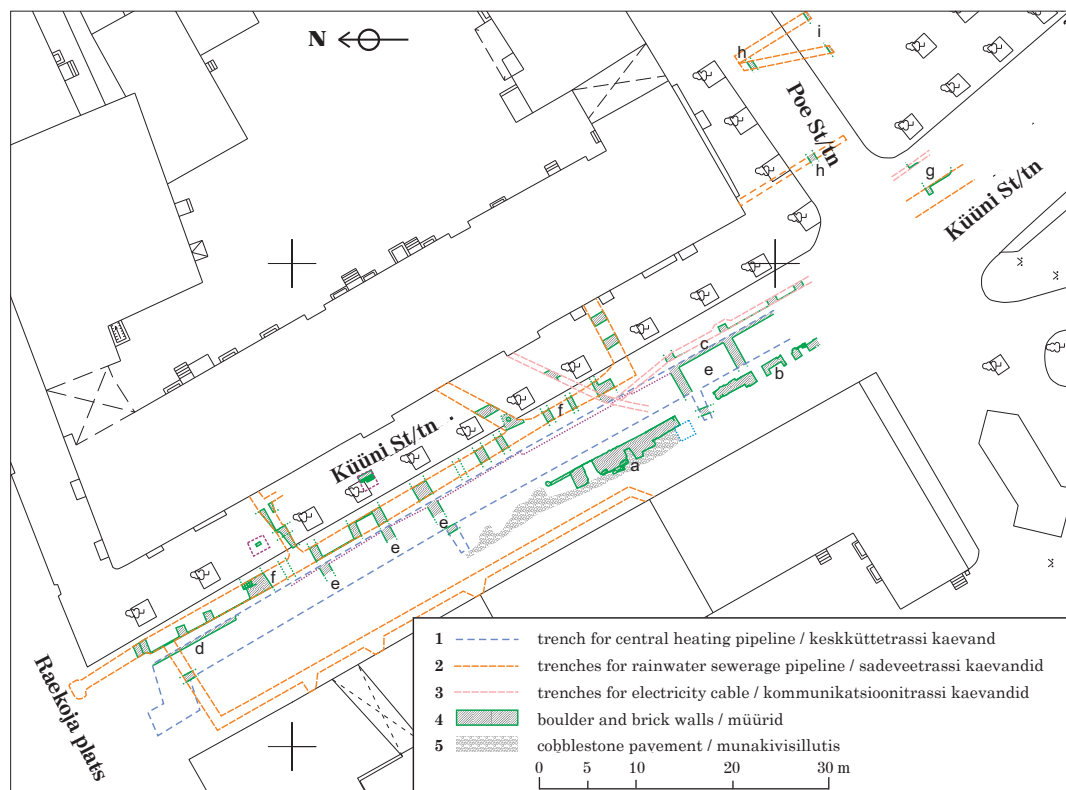


Fig. 3. Trenches in Kūüni street and investigated walls of boulders and bricks.

Jn 3. Kūüni tänava trassid ning uuritud müürid.

Drawing / Joonis: Andres Tepper

at the eastern edge of Kūüni street. Namely, the ground was levelled before erecting the building, and a 10 cm thick light brownish sand layer (Fig. 4: b) was amassed on top of the earlier organic-rich layers (associated with wooden edifices). Similar developments could be observed in the northern part of the main excavation plot for the central heating pipeline as well as with the walls detected in the additional trench (Fig. 3: 1). Several pottery finds suggest that the planning of the sandy ground level, which could be also observed in the trench established for rainwater sewerage pipeline at the western side of Kūüni street (Fig. 3: 2), may date from the end of the 14th century or from the beginning of the 15th century.¹ The nature of the light brown sand layer might be associated with the sand cushion below the cobblestone pavement. However, clear evidence like cobble stones, could unfortunately not be found. In conclusion,

¹ The finds gathered from the organic-rich layers preceding the light brownish sand stratum may probably date from the end of the 13th century until the second half of the 14th century. However, the finds from the layers following the mentioned stratum already belong to the end of the 14th century or 15th century (identified by Arvi Haak (TM)). It is possible that the gap of almost a hundred years has been conditioned by the removal of the former cultural layers.

the gathered information enables to date the replacement of the wooden buildings with stone houses and possibly the earliest cobblestone pavement of the street to the end of the 14th century/beginning of the 15th century.

The walls of buildings destroyed during the Northern War (1700–1721) could also be detected in the southern end of the section between the Town Hall Square and Poe street (Fig. 3: 4; b; 6). During soil removal properly laid walls of boulders and bricks were exposed in the depth of 50 cm from the ground level. The house walls, the preserved length of which was at least 11 m, had two doorways and a bricked-in opening for light. A cobblestone pavement above the red sand cushion ran directly against the western side of the walls. Heavy soil, rich in debris and bricks had been deposited directly on top of the pavement. The find material (16th/17th century local pottery, stem fragments of clay pipes and pieces of stove tiles with green glaze) refers to the period of the Northern War whereas the debris layer has been tramped hard. This means that some time after the Northern War the levelled layer of debris has been used as a street. At the site of the given building the street preceding the Northern War has been about 5.1–5.3 m wide.

Modern era constructions

Somewhat later walls properly laid of boulders and bricks could be detected in the northern and southern end of the eastern wall of the excavation for the central heating pipeline (Fig. 3: 4: c–d; 7). In both cases the rows of boulders framed with bricks placed edgewise could be observed in the wall at even height. The size of the bricks used in the wall was usually $9\text{--}10 \times 14 \times 30$ cm which is characteristic to the medieval bricks of Tartu. However, the medieval bricks in the described walls were probably of secondary use. Altogether three to four rows of boulders could be followed in the walls at the preserved height.



Fig. 4. Boulder wall marking construction front before 1775.

*a – boulder wall; b – sand layer;
c – cobblestone pavement.*

Jn 4. 1775. a eelset hoonestusfronti tähistav maakivimüür.

*a – maakivimüür; b – liivakiht;
c – munakivisillutis.*

Photo / Foto: Eero Heinloo



Fig. 5. Doorway with a threshold.

Jn 5. Lāvega ukseava.

Photo / Foto: Eero Heinloo



Fig. 6. Brickwalls found in the southern part of Kūüni street.

Jn 6. Kūüni tänava lõunaosas avastatud tellismüürid.

Photo / Foto: Eero Heinloo

The north–south directed section of a properly laid wall located in the southern end of the trench (Fig. 3: 4: c) could be observed in the 11.60 m long section. Measured from the lower stones of the foundation the wall had been preserved until the height of 2.15 m, remaining in the interval of the absolute height of 36.00–38.15 m a.s.l. The foundation was actually formed of brick debris mixed with mortar in the bottom of the foundation ditch which supported a row of boulders and a proper brick wall resting on the boulders. The possible ground level of the time of erecting the wall, in other words the upper fringe of the foundation part of the wall, may be noted by protrusions of mortar projecting towards west at the absolute height of 36.70–36.75 m a.s.l. The pottery gathered from the fill of the depression of the foundation is dated to the 18th century. Several construction stages could be clearly distinguished in the wall. Also a discharging arch of brick had been laid over an east–west directed wall located transversely with it. Next to the medieval thick (9 cm) bricks also modern age thinner ones (with the thickness of up to 6 cm) had been used for the construction of the discharging arch.

In addition to the north–south directed stone walls and foundations at least five east–west directed properly laid wall remains could be discerned in the eastern profile of the trench for the central heating pipeline and in the area of the excavation (Fig. 3: 4: e). Unfortunately these had been previously destroyed by the installation of central heating pipeline in the beginning of the 1980s. The east–west and north–south directed walls of the medieval buildings as well as the build-

ings erected after the Great Fire of 1775 were documented in the main excavation of the north–south directed rainwater sewerage pipeline established in the eastern side of Küüni street and in supplementary ditches running east from the main trench (Fig. 3: 4: f).

Pavements

A regular cobblestone pavement with thick charcoaly debris deposited directly on it runs against the western side of the boulder wall (directly next to the walls at the absolute height of 37.60–37.65 m, strongly slanting towards west) (Figs. 3: 5; 4: c). Characteristic finds gathered from the rubble (fragments of stove tiles with dark glaze) can be dated to the second half of the 18th century and thus the debris can be associated with the levelling layer after the Great Fire in 1775.

Another cobblestone pavement located above the cushion of red sand lies mostly under the described pavement but reaches the same level in the northern end of the wall. This pavement can be associated with the stone pavement preceding the Northern War. Military activities have in places seriously damaged the pavement, an exploded iron shell in the northern end of the building has created a remarkable hole in the pavement. The stone pavement from the period of the Northern War was in parts in a very bad condition so that it had to be re-laid in places as a new cobblestone pavement.

The town wall tower

In smaller sections of the trenches for sewerage at the crossing of Poe and Küüni streets and directly towards the river, the documenting of the town wall tower and the street that remained directly at the inner side of the town wall is worth noticing. The remains of the western side of the presumably semicircular town wall tower could be observed in the short trench for rainwater sewage dug at the crossing of Poe and Küüni streets (Figs. 3: 4: g; 8).

The boulder walls marking the northern side of the medieval street (Fig. 3: 4: h) could be followed in two areas whereas in both cases a cobblestone pavement was discerned running against the southern side of the walls. The town wall designating the southern side of the street was also observable in two cases (Fig. 3: 4: i), remaining 2.50–2.60 m south from the southern edge of the roadway of the present Poe street.



Fig. 7. Modern era constructions in the trench.

*Jn 7. Trassis olevad hilised maakivi- ning tellismüürid.
Photo / Foto: Eero Heinloo*



Fig. 8. The remains of a semicircular tower. View from south-west.

Jn 8. Poolringse torni süilmed. Vaade edelast.

Photo / Foto: Eero Heinloo

Cultural layer

In addition to archaeological monitoring the cultural layer had to be excavated in connection with the installation of the rainwater sewerage pipeline, both in the northern part of the western side of trench in Küüni street as well as in the section of the excavation in the eastern side that reached from the end of Küüni street to the Town Hall Square. A characteristic feature was the dense greyish or dark greyish prehistoric layer (thickness up to 30 cm), in places rich in rock debris. The oldest finds from the layer are fragments of wheel-thrown pottery with line ornament and wavy lines dating from the 11th century. Dark brownish layers rich in organics and shingles had deposited onto the prehistoric layer. North-south directed horizontal timber details were located in the given layers on the western side of Küüni street, but the nature of the constructions remained unclear due to the scarce information obtained from the excavation.



Fig. 9. Finds from Küüni street. 1 – penannular brooch; 2 – mould with engraving of a circular cross pendant.

Jn 9. Leide Küüni tänavalt. 1 – nuppotstega sõlg; 2 – ristripatsikujulise süvendiga valuvorm. (TM A 182: 338, 217.)

Photo / Foto: Eero Heinloo



In addition, no constructions referring to wooden pavement were detected in the area of the presumed medieval Küüni street. The preserved cobblestone pavements from different periods could be recorded in three cases, in addition sandy intermediate layers were distinguished that could have been the sand cushions under the former cobblestone pavements.

The find material gathered in the course of excavations reflects characteristically the nature of the cultural layer, the most remarkable finds being a small penannular brooch (Fig. 9: 1) dated to the 14th century by accompanying finds and a mould with the engraving of a circular cross pendant (Fig. 9: 2). The mould was obtained from the cultural layer dated to the end of the 14th or to the 15th century.

TRENCHES IN VANEMUISE STREET

In September and October 2009 archaeological monitoring was conducted in Tartu in the area of the building of Ülikooli Street 2. The excavations took place on the southern side of the building at Vanemuise street as an approximately east–west directed trench until the eastern side of Küüni street, as well as on the eastern side of the building in Ülikooli street (Fig. 1: b). The total length of the trenches was 120 m, the average width of the trench was 1.3 m and 2.5 m in the deepest section of the trench. The depth of the excavation was mostly 1.6–1.9 m from the present ground level, an exception was the area at Küüni street where the bottom of the excavation reached the depth of 3.3–3.5 m from the ground level and extended already to the layer of natural peat without any signs of human activity. In the initial project the section of the ditch running parallel to the southern wall of the building of a post office (Vanemuise St 7) was designed *ca.* 4 m deep, however, in order to diminish the volume of archaeological work and primarily the financial expenses, the client and project manager changed the height of the bottom in this section of the trench and thus a part of the deeper cultural layer remained undamaged during the excavations.

Natural layers of clay and sand without any traces of archaeologically interesting intervention were exposed in the excavation under the later layers of street cover in the section of Vanemuise street, located on a natural slope west of Ülikooli street. As a result of archaeological investigations prior to the construction of the Ülikooli 2 building and monitoring carried out in 2009 it is possible to follow the natural relief of the slope located between the present Vanemuise and Kitsas streets. These results enable to conclude that before clay mining in this area the comparatively steeply rising slope started already more east of Ülikooli street and the slope was considerably higher at Vanemuise street than in the section between Kitsas and Vallikraavi streets. The removal of clay layers in the eastern part of the slope was directly connected with the production of bricks; however, in a broader view shifting the hill westwards was beneficent for the defence purposes of the town wall.

In the course of the monitoring work at Ülikooli street a depression for extracting clay was documented at the north-eastern corner of Ülikooli 2 building from the absolute height of 42.12 m a.s.l. The width of the depression from east to west was at least 1.5 m and the depth 0.9 m. The depression is the southernmost of the clay extracting holes documented so far in the area of Ülikooli street (according to the current knowledge, from

the northern side of Vallikraavi street until Kitsas street), the territory of a medieval clay mine. The location of the depression arises some questions about the locality of the road that ran along Ülikooli street. We have not yet succeeded in ascertaining the road neither above the present street nor directly east or west of it.

1–2 m west of the western edge of Kүүni street a part of a semicircular establishment made of vertical stakes rammed into the ground was unearthed in the lower layers of the excavation (at the height of 37.20 m). The used stakes had the diameter of 9–19 cm, the length of the longest preserved stake was 1.15 m. The end of the stake had been hewed sharp from four sides in its lower part (55 cm in length). A darker greyish layer consisting of clay and a stratum of natural peat were located on the outer side of the establishment (i.e. on its northern side that remained on the territory of the excavation). The area surrounded by logs was filled by a (up to 45 cm thick) layer of brownish and reddish clay, a layer of red clay with pieces of bricks on top of it and a layer of red clay with fine brick rubble (the latter layers formed together a 65–75 cm thick deposition). The described construction may be associated with clay processing and it extends into the lowest part of the slope, furthest to the east of all similar establishments documented thus far.

On the eastern side of Kүүni street several considerably thick (20–40 cm) layers of brownish and reddish clay were documented on top of the natural intact peat layer starting at the absolute height of 36.07 m a.s.l. These layers had probably formed in the area during the mining and processing of clay that took place in the higher part of the slope and deposited lower by rainwater.

The eastern side of Ülikooli street until the western side of Kүүni street the layers documented in the excavation predominantly included modern age filler layers with plenty of debris that alternated with several quite massive planning layers of red sand. Of later strata the up to 15 cm thick dark very charcoaly blackish layer rich in pieces of slag that was exposed directly west of Kүүni street only 0.5 m deeper than the ground level (at the absolute height of 38.57 m a.s.l. in its higher part) might be considered the most remarkable. The find material of the layer, similarly to the finds of the following deeper stratum, included fragments of white clay pipes which, together with accompanying finds, enable to date the layer to the 18th century. The described layer might be linked with a similar stratum documented during the archaeological investigations of the post office situated slightly to the north and with the crucibles and their fragments that refer to the possibility that in 18th century metal processing took place during the period of earthen fortifications in the area.

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ARHEOLOOGILISED UURINGUD KÜÜNI JA VANEMUISE TÄNAVATEL TARTUS

Eero Heinloo ja Rünno Vissak

2009. a sügisel teostasid MTÜ AEG arheoloogid uuringuid Küüni ja Vanemuise tänavatel. Küüni tänavarekonstrueerimistööd olid peamiselt koondunud Raekoja platsi ja Poe tn vahelisele alale, lisaks kaevati lühemaid trassilõike Küüni ja Poe tn ristist läände ning itta (jn 1: a). Tavapärase arheoloogilise järelevalve kõrval oli uuringute eesmärgiks selgitada keskaegse ning 1775. aasta suuropõlengu järgse hoonestusfrondi paiknemine.

1775. a suuropõlengu järgne ning kuni 1944. a püsinud Küüni tn idakülje hoonestusfront on seotav keskküttetrassi kaevandi jõe poolses seinas paljandunud maakivivundamentidega (jn 2: 1). 1775. a suuropõlengu eelset hoonestusfronti tähistavaid müüre täheldati kaevandi põhjapoolses otsas ning trassi keskosas. See hoonestusfront on selgemalt eristatav Küüni tänava läänepoolsel küljel, kus pinnase eemaldamisel ilmneseid põhja-lõuna-sihilised maakivi- ning tellislaos müürid (jn 2: 3: c–d). Neist põhjapoolsem, suuropõlengu käigus hävinud hoone müür kujutab endast lubimördiga seotud maakivimüüri (jn 4: a), mille sisekülj on laotud korralikus tellislaos. Säilinud hoonejäänustel on selgemalt eristatavad astmeline valgusava, munakividega kaetud nišš ning lävega ukseava (jn 5). Kokku oli säilinud müüristik nähtav u 11 m pikkuselt. Tuginedes varasematele uuringutele, mille põhjal langeb keskaegse Küüni tänava läänepoolne külg suuresti kokku tänapäevase läänepoolse hoonestusjoonega, võis 1775. a suuropõlengu eelne tänav antud kohal olla umbkaudu 4,5–5,1 m laiune.

Hoone rajamisele eelnes maapinnatasandi planeerimine, mille käigus kanti varasemate (puithoonestusega seotud) orgaanikarikaste kihtide peale u 10 cm paksune helepruunikas liivakiht. Liivakiht tähistabki Küüni tänava äärsed puithoonestuse asendamist kivihoonestusega, mis on keraamika leidude põhjal paigutatav 14. sajandi lõppu/15. sajandisse.

Maakivimüüri läänepoolse külje vastu jookseb korralik munakivisillutis, millele on ladestunud 1775. a suuropõlenguga seotud rusu. Selle sillutise alla jääb ka teine, Põhjasõja-eelne kivisillutis.

Põhjasõja ajal hävinenud hoonemüüre täheldati Raekoja platsi ja Poe tn vahelise lõigu lõunapoolses otsas (jn 6). Vähemalt 11 meetri pikkuselt säilinud hoonemüüridel tuvastati kahe ukseava ning ühe kinnimüüritud valgusava olemasolu. Vahetult

müüride lääneküljel asus punasel liivapadjandil munakivisillutis; hoone juures oli Põhjasõja eelne tänav umbkaudu 5,1–5,3 m laiune.

Põhjasõjast hilisemaid korralikus maakivi- ning tellislaos müüre täheldati keskküttetrassi kaevandi idaseina põhja ja lõuna poolses otsas (jn 7). Müüris kasutatud telliste mõõdud olid enamasti iseloomulikud Tartu keskaegsetele tellistele, ilmselt on tegemist korduvkasutusele võetud ehitusmaterjaliga. Lõunapoolse müüri vundamendi sissekaeve tätekihist saadud keraamika pärineb 18. sajandist.

Poe ja Küüni tn ristumiskohas ning sellest vahetult jõe poole rajatud trassides dokumenteeriti linnamüüri siseküljele jäänud tänava põhja- ja lõunakülg ning Küüni tänava kohal asetsenud linnamüüri torn (jn 8).

Kultuurikihi kaevamist teostati nii sadeveetrassi Küüni tänava läänekülje põhjapoolses osas kui ka idakülje lõigul, mis ulatus Küüni tänavast Raekoja platsini. Kultuurikihti iseloomustas valgele lubjakihi ladestunud tihke hallikas või tumehallikas, kohati kivi- ja muinaskiht (paksusega kuni 30 cm), millest saadud vanimad leiud on 11. sajandisse dateeritavad joon- ja lainornamendiga kedraakraamika katkendid. Muinaskihil asusid keskaegsed tumepruunikad orgaanikarikad ja laastused kihid, millele omakorda järgnesid liivasemad kivisillutiste padjandid, maapinnatasandid ning ülas osas rusused tätekihid. Tänava alal keskaegsetele puitsillutisele viitavaid konstruktsioone ei täheldatud. Kaevamiste saadud tähelepanu-väärsemateks esemeteks on pisike nuppotstega sõlg (jn 9:1) ning 14. sajandi lõpu – 15. sajandi kultuurikihist pärit valuvorm (jn 9: 2).

Ülikooli 2 hoone ehitusele eelnenud arheoloogiliste uuringute ja 2009. a läbiviidud järelevalve (vt jn 1: b) tulemusena saab jälgida tänapäevase Vanemuise ja Kitsa tänava vahelises lõigus paiknenud nõlva looduslikku reljeefi. Nõlva savikihtide maha-kaevamine nõlva idaosast oli seotud telliste tootmisega, kuid laiemas plaanis oli savi kaevamise käigus toimunud künka nõlva nihkumine lääne poole soodne ka linnamüüri kaitseotstarbe seisukohalt. Ülikooli tänava sõidutee alal toimunud järelevalve käigus dokumenteeriti Ülikooli 2 hoone kirdenurga juures savivõtuaugu süvend, mis on senifitseeritud kõige lõunapoolsem Ülikooli tänava, piirkonna keskaegse savikaevandamise savivõtuaukudest.

Küüni tänava lääneservas paljandus alumistes kihtides sisserammitud püstvaiadest poolringikujulise rajatise osa. Vaiadest rajatise välisküljel paiknes tumedam hallikas savisisaldusega kiht ning looduslik turvas, palkidega ümbritsetud ala täitsid pruunika ja punase savi kiht, selle peal telliste tükkidega punase savi kiht ja peene tellisepuruga punase saviga kiht. Rajatist võib seostada savi töötlemisega.

Küüni tänava idaküljel dokumenteeriti loodusliku turbakihi peal mitmeid pruunikaid ja punakaid saviseid kihte, mis olid tõenäoliselt tekkinud nõlva kõrgemas osas toimunud savi kaevandamisest ja töötlemisel ning ladestunud madalamale alale sadeveeuhtega.

Ülikooli tänava idaküljelt alates kuni Küüni tänava lääneküljeni olid kaeves dokumenteeritud valdavalt uusaegsed rusutäitelised kihid, mis paiknesid vaheldumisi punasest liivast planeerimiskihidega. Tähelepanuväärivaks võib pidada tänavapinnast 0,5 m sügavusel asuvat kuni 15 cm paksust tumedat väga söest mustjat kihti, milles leidis palju šlakki. Kihi leiuaineses, nagu ka järgneva kihi leidude hulgas, olid esindatud valgete savipiipude fragmendid, mis koos muude kaasleidudega lubavad dateerida kihi 18. sajandisse. Kiht sarnaneb Postimaja (Vanemuise tn 7) uuringutel fikseeritud kihiga, kust leiti mitmeid väiksemaid sulatustiigleid. See viitab, et 18. sajandil (muldkindlustuste perioodil) tegeleti piirkonnas metallitöötlemisega.