

# Archaeology in the Thonburi Area<sup>1</sup>

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## **Abstract**

At the time of writing, archaeological excavations have been carried out at four sites in the Thonburi area: Wichai Prasit Fort, Khong Ban Khamin (the former Thonburi moat), the former Thonburi train station area, and Pong Pajjamit Fort. The information gathered from the archaeological excavations is greatly significant to affirm, verify, and test existing knowledge from historical documents. Furthermore, it can clearly support topics of original historical knowledge, which hitherto had no records. The objectives of this article are to present new information and evidences derived from the technical method of the archaeological excavation, which had never been revealed so far, and to demonstrate it's contribution to archaeological knowledge in the Thonburi area.

**Key Words:** Thonburi; Thonburi Archaeology; Bangkok Archaeology

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## Introduction

In 1994, an archaeological excavation was systematically carried out along the Chao Phraya riverside within Thammasat University. Thammasat University had a scheme to improve the parking areas under the buildings of the faculty of Economics and the faculty of Political Science. Thenceforth, the Fine Arts Department approved the study of the archaeology whenever building construction, transformation of the area, or improvements were carried out. Other important archaeological sites, which have been excavated in Bangkok include the area around the former Ministry of Commerce (now the Museum Siam), the area of the Saranrom Palace, the area within the former Department of Internal Trade of Thailand, improved to become the Nakaraphirom Garden, the area within Rajini School, the area of the Sahachart Memorial, the Giant Swing, Phra Sumen Fort, and the area of Maha Kan Fort, etc.

In 1997, the archaeological study in Thonburi was initiated during landscape conservation and improvement within the former King Tak Sin palace, and the pedestal of Wichai Prasit Fort was excavated. At present, there have been a total of four archaeological excavations in Thonburi area; the pedestal excavation site of Wichai Prasit Fort (1997), the archaeological excavation of the former Thonburi moat (Khong Ban Khamin) (2002), the excavation and survey of the former Thonburi train station area (2008 and 2011-2012), and the archaeological excavation of Pong Pajjamit Fort in the area of Khongsan District Office (2008).

## The Pedestal Excavation of Wichai Prasit Fort

The Wichai Prasit Fort was situated at the western side of the Chao Phraya Riverside in the area of Bangkok Yai, Wat Arun sub-district, Bangkok Yai District. It was constructed from lime and brick with a parallel wall for two slightly sloping layers and big square battlements. The length of the fort is 75 meters in total and the width is 30 meters. The western part of both of the two layers of the wall is opened and is a wide area. Next to the northern and southern entrances is a ladder to a rampart in the area of the outside wall. Only the inside wall has two



**Map 1** The location of archaeological excavation sites at Thonburi area in the ancient Bangkok map in A.D.1896.

circular turrets constructed on the northern and southern walls from lime and brick. The height of the inside northern turret is 2.3 meters and 2.5 meter for the inner southern turret.

The archaeological study of the Wichai Prasit Fort is one part of the landscape conservation and improvements project within the former King Tak Sin palace area. In 1997, the pedestal excavation of Wichai Prasit Fort, consisting of 8 test pits, concluded the following evidences (Moradokllok 1997):

The height of the Wichai Prasit Fort foundation is about 290 cm from the ground surface. The characteristic of the pedestal was that it was designed to use the wall for supporting the weight of the fort and no

timber or logs were found for the construction. The laying of bricks was done by overlapping as layers and reversing the width and the length. The dimension of the brick lying on the top is (W)18 x (L)34 x (H)4 cm and uses mortar. Beneath the ground surface at a depth of 28 cm, the dimension of a brick will be thicker than on the top (W)18x (L)34x (H)7cm and uses mortar as well. On the other hand, at the level of 240 cm from the ground surface, no mortar or plaster was found.

### **The Archaeological Excavation of the Former Thonburi City Moat (Khong Ban Khamin)**

The Public Works Department had informed the Fine Arts Department about road and bridge construction linking up with Soi Sangsuesa, Arun Amarin Road in order to solve traffic problems. They were concerned that the reinforced concrete bridge construction across Khong Ban Khamin might demolish the remains of the ancient city wall and Thonburi moat, which were previously destroyed during the Rattanakosin period. Therefore, the Fine Arts Department initiated archaeological excavations to find out the original range of the city walls and archaeological evidences from dredging of Khong Ban Kamin, which were moats of the Thonburi age. The extent of the two ruins from the archaeological excavation were found to be as follows: (Sunisa, 2002)

1) The ruins made from bricks with (W) 1x (L) 2 m. and with distance from the range of Thonburi moat at 5.5 meters.

2) The ruins made from bricks with (W) 1.80x (L) 2.80x (H) 1.32 m. and distance from the range of Thonburi moat for 25 meters. The top floor of the range of the ruins was lower than the current Arun Amarin road by 1 meter. Bricks at the bottom had a width of about 15-17 cm, the length of about 32-35 cm and thickness of 7-10 cm. Bricks for the top construction were smaller than the bottom; their width was about 17 cm, length about 27 cm and with thickness of between 5-7 cm. It is believed that this was the range of the city wall of Thonburi in Thonburi period.

Besides the ruins found, dredging Thonburi moat had been done to study and find the extent of moat range in the past. The soil stratigraphy can be divided into 3 layers as follows:

**The 1<sup>st</sup> layer** is the soil at present. Its characteristic is a combination of clay with broken bricks, shells, tree roots, and modern objects such as pieces of cement and nails.

**The 2<sup>nd</sup> layer** is the soil of Thonburi moat in the past. It occurred from activities carried out at the moat side and broken bricks, wood, and organic objects such as charcoal were found. This demonstrated that it was the residential area of the moat side which was shallow and narrow. The extent of the width of the original moat was about 10-11 meters.

**The 3<sup>rd</sup> layer** is the original soil layer that occurred in the same age as that of the floor of Thonburi city moat.

According to the results of the archaeological excavation of the former Thonburi moat (Khong Ban Khamin), it was assumed that the city wall of Thonburi had a width of 1.80 meters with the distance from the range of Thonburi city moat of 25 meters. In the past, Thonburi city moat would likely have had a width of about 10-11 meters.



**Figure 1** The former Thonburi city moat (Khong Ban Khamin) site at present.

## **The Archaeological Excavation of the Former Thonburi Train Station Area**

The former Thonburi train station is now the Faculty of Medicine, Siriraj Hospital, Mahidol University. While digging to prepare the base construction of a new medical building in 2008, many artifacts were found. Therefore, an archaeological study was conducted in the former Thonburi train station area for this purpose. The areas of the archaeological study were divided into two parts. The first one was the construction area for the buildings (AREA 1). It was dug beneath the ground at a depth of about 20 meters. The second one was the outside the main construction area (AREA 2). This area consisted of 4 buildings and one of the four was the building of the Thonburi train station. This area was further investigated for the archaeological excavation in 2011-2012.

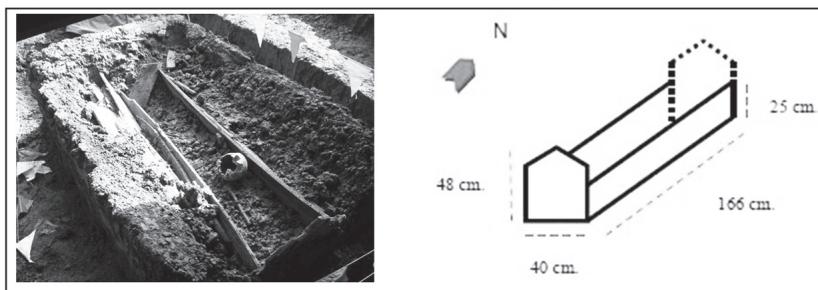
The archaeological study in the former Thonburi train station area was operated to: 1) Gather archaeological evidence found during the preparation of construction buildings (AREA 1) 2) Survey the archaeological evidence found during the preparation of construction buildings and to survey the ground surface in that area 3) Excavate the archaeological evidence in AREA 1 for 6 pits (TP.5-10) 4) Excavate the archaeological evidence at the fortress palace in AREA 3. According to the archaeological excavation, the evidence could be concluded as follows: (Kannika, 2008a, 2008b, 2012)

### **1) To gather the archaeological evidence found during the preparation of construction buildings and survey the ground surface in the AREA 1.**

While the Italian company was digging soil for preparation of construction buildings, they accidentally found a wood coffin, human skeletons, and ruins of wooded boats, so the team project studied them. Important evidence was found as follows:

**A wood coffin containing a human skeleton and two further human skeletons were found.** A wood coffin and skeletons were buried at the same level, beneath the current ground surface at a depth of

two meters. The coffin and skeletons were laid along the north-south direction by laying the head towards the north and no other artifacts were buried together with them. The area where the coffin and skeletons was found was at the west end of the train station, close to Wat Amarintraram. It was assumed that such an area had perhaps once been the Kubor or an old cemetery of Thai-Muslim people who had settled in this area before the Thonburi train station was constructed in the reign of King Rama V.



**Figure 2** A wood coffin containing a human skeleton were laid along the north-south direction.

**Ruins of a wooden boat:** According to the archaeological excavation, ruins of a wooden boat measuring (W) 5 x (L) 24 meters was found. The tips of the top and end of the boat were visible and the head was raised up slightly. It was found that under the bottom it was covered with brass alloy and English letters overlaid on brass alloy. There were letters “24” surrounded with a circle in a center and all letters were convex printing bearing the description “MUNTZ PATENT”. The west surface of the boat was found to have traces of burning traces covering almost half of it. Therefore, it was assumed that after this boat stopped at this area, some parts of the boat were burnt. The boat was laid on a beam that was similar to a log. The diameter of the log was 23 cm with a length 4.50 meters used to support the boat. This area that used to be the Thonburi train station had a small canal as a harbor. This boat was completely covered, so it was assumed that it was from the period of

the big area renovation during the time when the train station was being constructed or the area was being improved after World War II.



**Figure 3** A wooden boat was found at the former Thonburi train station area.

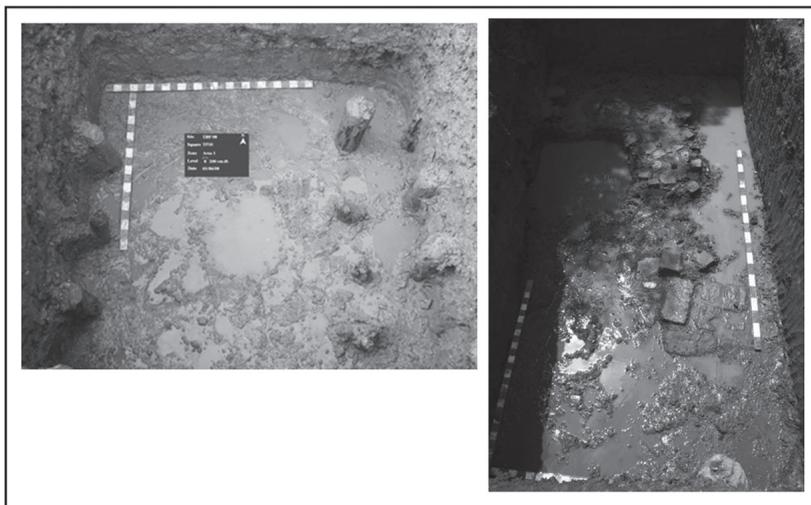
## 2) The archaeological survey

The results of the archaeological survey found artifacts such as pieces of human skeletons, elephant bones, domestically produced potteries, Chinese potteries and roof tiles throughout the area.

## 3) The archaeological excavation in the AREA 1

The archaeological excavation for 6 pits (TP.5-10) found important evidences within the TP.9 located at the platform of the train station building at the level of 140-160 cm.dt. (or lower than the current ground surface of 100-120 cm). Most of the floor of broken bricks and artifacts were similar to artifacts found in other soil layers. Within the TP.10 located at near area, rows of wood sticks were found at the level of 140-160 cm.dt (or lower than the current ground surface at 100-120 cm) and pieces of roof tiles were found in this area, and most, compared

to roof tiles found in other soil layers. Therefore, it could be concluded that the level that was lower than the current ground surface of 100-120 cm should be the original cultural soil layer before the Thonburi train station was constructed in the reign of King RamaV. They might be the soil layers from the Ayutthaya or beginning of the Rattanaksin periods.



**Figure 4** The rows of wood sticks were found at the level of 140-160 cm.dt. at TP.10 (left) and the floor of broken bricks was found at same level of the rows of wood sticks found at TP.9 (right)

#### **4) The archaeological excavation at the fortress of Krom Phrarajawanglang palace in the AREA 3**

AREA 3 was located at the back of the former Thonburi train station building. The first excavation of this area occurred in 2008 and was worked on further in 2011-2012. According to the archaeological excavation, ruins measuring 18 meters was found. From the position and direction of the brick depth, it could be equivalent to the row of the fortress of Krom Phrarajawanglang palace that appeared in an ancient map of Bangkok in 1896. Therefore, we know that this brick row had once been one part of the fortress palace constructed in the reign of

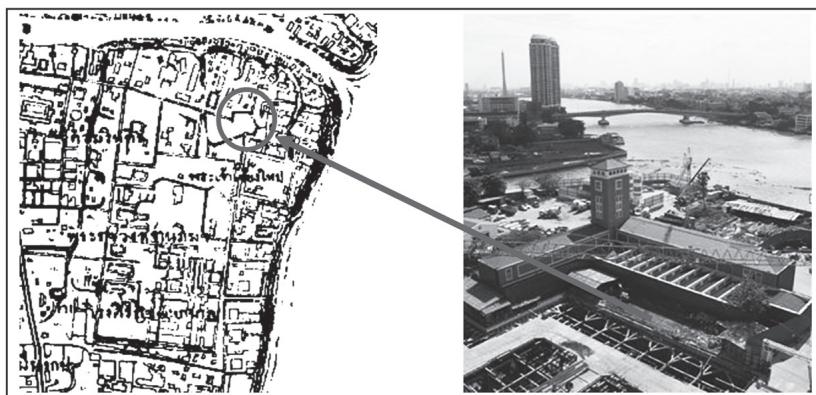
King Rama I. Prince Damrong Rajanubhab composed a title about the fortress of Krom Phrarajawanglang palace such that “*the fortress of Krom Phrarajawanglang palace was constructed at Suanlinchi Sub district (the current location of Siriraj Hospital) since Krom Prarat Wang Lang was promoted to Somdet Prajaolarnter Jaofah Krom Luang Anurak Thewet. The fort was built at such area since the Thonburi period so it was important to prevent the west of the city to the fortress palace*” (1970: 11). From such historical evidence, we know that this brick row of the fortress palace had once been the northeast fort of Thonburi city. Then, it was changed to the northeast fort of the fortress palace in the reign of King Rama I.

According to the archaeological excavation of the fortress palace, it was found that the brick row constructed as the wall of the fortress palace might have been a part of the wall of the Thonburi fort. It was found beneath the current ground surface at a depth of 1 meter, the width of the wall was about 1.9-2 meters, the average dimension of bricks was (W) 17.5x (L)34x (H)8.5 cm. The brick surface appeared to have a lot of traces of chaffs as one of the burnt raw materials. The height of the brick row was about 2.3 meters. The bricks at the bottom were bigger than at the top; counting from the top until the 6<sup>th</sup> layer was at an average of (W)17.5x (L)34x (H)8.5 cm. On the other hand, the 6<sup>th</sup>-8<sup>th</sup> layers were thicker than others with the average sizes of (W)17.5x (L)34x (H)10 cm and the 9<sup>th</sup>-19<sup>th</sup> layers were bigger than other layers with the average sizes of (W)18.5x (L) 36x (H)14.5 cm. The wall row of the fortress palace was constructed by using bricks for bearing the whole weight of the fort and logs or other items had not been found for load bearing. According to the excavation of the lowest level, it was found that under the last brick row (the 19<sup>th</sup> layer) sand was used with the same size as selected from other areas for improving the area intentionally before the pedestals with bricks were constructed. The age determination of the brick samples carried out by using Thermo luminescence dating demonstrated  $523 \pm$  years or B.E.  $2032 \pm 40$ . (The results are from the brick analysis with Thermo luminescence dating technique, Department of Earth Science,

Faculty of Science, Kasetsart University)

Besides the ruins of the wall of the fortress palace, the ruins of the sidewalk around the fort was also found at a depth of about 100-120 cm from the current ground surface, the width of the bricks was about 1-1.20 meters with the average size of (W)18x (L)36x (H)12 cm. The surface of the bricks had traces of lot of chaffs. These bricks had holes and most of them had 3 holes. The discipline for laying had the specific system of using the two bricks for the reversed long and short range respectively. Based on the excavation in detail, it was found that the row of the sidewalk around the fort was constructed to cover another layer of the sidewalk. It was constructed by using smaller bricks with the average size of (W) 14x (L)26x (H)4.5 cm. Most bricks were broken as a half.

It can be concluded that the ruins found at the back of the former Thonburi train station building was the fortress of Krom Phrarajawanglang palace, which was located at the north east corner of the fortress palace in the reign of King Rama I and might have been a part of ancient wall of Thonburi city in the Thonburi period.



**Figure 5** The ancient Bangkok map in A.D.1896 shows the fortress of Krom Phrarajawanglang palace (left) which was found at the back of Thonburi Train station office. (right)



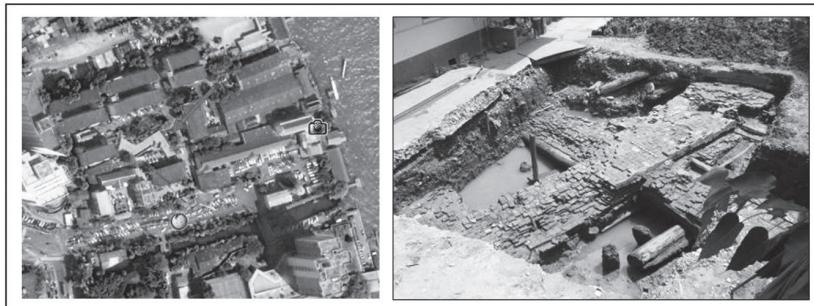
**Figure 6** A part of the fortress of Krom Phrarajawanglang palace was found at the back of Thonburi Train station office.

### **The Archaeological Excavation of the Pong Pajjamit Fort in the Area of Khongsan District Office**

In October 2007, while digging at the area of the back of the Khong San District Office building as the middle area was being prepared for new building construction, many logs were found so the operation was halted and a team conducted an archaeological excavation in May 2008. It was found that the area of Khong San District Office was very important because it used to be the location of Pong Pajjamit Fort, which was constructed in the reign of King Rama IV and considered to have been the greatest fort of the Thonburi area in the Rattanakosin period.

It can be concluded that the characteristic of the pedestal of Pong Pajjamit Fort was that of bricks with mortar, by laying them down as a long row and crossed as if in a table (or the row of Khong Rak) for adequately bearing the load of the walls and building. Each brick was overlapped beneath from the current ground surface to the last brick of the pedestal for about 2 meters in length. Under the brick layers, logs and flat wood were loaded and the side of the brick layer used logs for sticking into the ground vertically in order to prevent sliding movement

of soil to the sides and to foster strength to the soil. Around the fort the same method was also used. Furthermore, at a depth of 2 meters from the ground surface or under the row of bricks, there were pieces of soft wood and lots of half coconut shells scattered throughout the area. They might have been covered to share the weight of the building (Kannika 2008c).



**Figure 7** A part of foundation of Pong Pajjamit fort was found at the area of Khongsan District Office

### Discussion and Conclusion

There were four archaeological excavations in the Thonburi area. The knowledge gained from the information and evidences from the archaeological excavation comprised the following important topics:

1) The pedestal of Wichai Prasit Fort had the characteristics of construction of bricks laid down with similar sizes. Such technical methods were the same for the construction of the fortress of Krom Phrarajawanglang palace, which might support the idea of Somdet Prajao Borromwongter Krompraya Damrong Raja Nubhab that the fortress of Krom Phrarajawanglang palace had once been the north east fort of Thonburi city during the Thonburi period.

2) The original floor of people who lived in the Thonburi area in the past might be beneath the current ground surface by some 100-120 cm based on the analysis of the archaeological evidence from the excavation at the former Thonburi train station.

3) The city wall of Thonburi had an estimated width of 1.80 meters and the distance from Thonburi moat was 25 meters. In the past, the estimated width of Thonburi moat was thought to have been 10-11 meters based on digging of the Former Thonburi city moat and the city wall of Thonburi in the area of Khong Ban Khamin.

4) Pong Pajamit Fort constructed in the reign of RamaIV had much more advanced technology with regard to its construction than the fort of the Thonburi period. It used large logs and timbers for load bearing the weight of the pedestal.

The current study of Thonburi archaeology can be concluded as follows:

1) An in-depth study and research of the archeology has not yet been conducted. The aforementioned study of the Thonburi area was carried out to gather evidence before any construction work took place to develop or improve the area.

2) The current study relied on archaeological excavations to seek information and evidence under the ground of each site but more research would need to be done to link archaeological evidence with historical documentation.

3) All of the archaeological excavations were considered as salvage archaeology or salvage of archaeological evidence before the archaeological sites were destroyed in order to develop, conserve, or improve knowledge regarding historic activities at these sites. All four places were considered as part of the original excavation plan before the improvement of two places such as the pedestal excavation of Wichai Prasit Fort and the archaeological excavation of the former Thonburi moat (Khong Ban Khamin). The other two locations were identified during the construction of the buildings and the construction had to be suspended for the archaeological examination to be conducted. For example, the archaeological survey and excavation in the area of the former Thonburi train station had the objective to examine the area before the new building of Siriraj Hospital could commence. The

archaeological excavation of the pedestal of Pong Pajjamit Fort began after Khong San District Office dug the soil in order to stick the pedestal and they subsequently found many logs under the ground.

4) No excavation was determined by the area and objective for in-depth study. The current information and evidence gained from the excavation was derived from the salvage area. Some artifacts were excavated when digging during the construction preparation period. Therefore, identifying the positions where items were found and the study and analysis of the area could not be done.

5) There were also few archaeological sites compared to the 4 places of Thonburi area as mentioned above.

6) The archaeological excavation in the Thonburi area at the Chaopraya Riverside has been limited, especially the extent of the city wall of Thonburi moat. It was the important position of the city and the edge of the area had never been excavated to study and research the settlement of people who lived outside Thonburi.

7) The archaeological excavation in the Thonburi area was limited to the study of the city wall and the fort. While the settlement of people who lived in many nearby areas was an important topic, no archaeological excavation could be responded to with regard to this topic.

8) An excavation report on the identification of the archaeological sites was published, but no further information or evidence was gathered to further our knowledge of the history of the Thonburi area.

As mentioned above, there are few archaeological studies at present. If the Thonburi archaeological study were conducted systematically, the image of Thonburi in the past would become clearer. Therefore, archaeological evidence in Thonburi is the empirical evidence to prove and examine historical documents based on existing knowledge, including enhancing knowledge of many overlooked or missed issues. The monuments found were evidence to confirm the true locations of important historical sites. The artifacts were the images of people's lives

in the past. Studying soil layers demonstrated the clearness of the original areas. Therefore, archaeologists should understand the archaeological evidence in the complicated periods and integrate the archaeological knowledge into many sciences in order to enhance the story of people in the past, which is the main target of the archaeological mission.

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