REPORT

Sang Hing Civil – Richwell Machinery Joint Venture

Contract No. CV/2013/03 - Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 5

Archaeological Survey and Archaeological Watching Brief Report

October 2014

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October 2014

Reference 0206395

For and on behalf of ERM-Hong Kong, Limited	
Approved by:	Frank Wan
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Date:	22 October 2014

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摘要

蓮塘/香園圍口岸與相關工程(項目)的實行被劃分作多個工程合約，其中合約5(編號CV/2013/03)涵蓋的工程包括平整土地作新口岸工程之用、蓮麻坑路改道工程及其他基礎建設工程 (以下稱合約)。生興土木 - 顯豐機械聯營(承建商)受土木工程署委託承建此合約涵蓋的工程。

香港環境資源管理有限公司受承建商的委託實施是項項目的環境評估報告(編號AEIAR-161/2011)所述的、與此合約相關的考古緩解措施。參考工程範圍的最新資訊，需要進行考古工作的工程範圍(考古工作範圍)被劃分為三段(T1段至T3段)。按經審批的考古工作計劃所要求，相關的考古工作包括了在T1及T3段進行考古調查及在T2段進行考古監察。

T1段及T3段的考古調查分別於2013年11月8日進行及2014年4月23日進行。T2段的考古監察於2014年1月15至16日進行。各段均沒有發現文化層，只在T3段的TP1及TP2；及T1段的TP3出土四片文物。文物皆為二次堆積，考古價值非常低。

在2010年為環境評估研究所進行的考古調查中於台地位置發現疑似文化層，相關的地層在各段中皆有發現。這些地層可確定為表土層或無出土物的沖積地層，因此考古價值非常低。

總的來說，發掘的結果確定了考古工作範圍的考古價值非常低，不需進行進一步的考古工作。

SUMMARY

The construction of the *Liantang / Heung Yuen Wai Boundary Control Point and Associated Works* (the Project) has been divided into a series of Works Contracts. Contract 5 (*Contract No. CV/2013/03)* covers the site formation for the Boundary Control Point, modification of Lin Ma Hang Road and the associated works for the Project (hereinafter referred to as "the Contract"). Sang Hing Civil – Richwell Machinery Joint Venture (the Contractor) has been commissioned by the Civil Engineering and Development Department (CEDD) to carry out this Contract works.

ERM-Hong Kong, Limited (ERM) has been commissioned by the Contractor to implement relevant archaeological mitigation measures as stated in the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-161/2011) for the Project. With reference to the latest information of the works area of the Contract, the works area requiring archaeological works (Archaeological Works Area) is divided into three sections (Sections T1 to T3). According to the approved *Archaeological Action Plan* (AAP), the archaeological works comprised archaeological survey at Sections T1 and T3 and archaeological watching brief (AWB) at Section T2.

The archaeological surveys were conducted on 8 November 2013 at Section T1 and 23 April 2014 at Section T3. The AWB was conducted on 15-16 January 2014 at Section T2. No cultural layer was identified in any of the Sections and only TP1, TP2 in Section T3 and TP3 in Section T1 yield four pieces of artefacts which were considered to be secondary deposit and have very low archaeological significance.

For potential cultural layers identified at terrace area in the archaeological survey conducted in 2010 for the EIA study (1), corresponding layers were identified in all Sections. However, these layers were confirmed to be top soil layer or alluvium layers without artefacts. Therefore they are with very low archaeological significance.

In summary, the field data confirmed that the Archaeological Works Area has very low archaeological potential, no further archaeological action is required.

(1) Agreement No. CE 45/2008, Chapter 12 "cultural heritage impact assessment" of *Liantang / Heung Yuen Wai Boundary Control Point and Associated Works Environmental Impact Assessment Report.*

1 INTRODUCTION

In September 2008, the Government of the HKSAR and the Shenzhen Municipal People's Government jointly announced the implementation of a new Boundary Control Point (BCP) at Liantang/Heung Yuen Wai in the north-eastern New Territories to serve the cross-boundary goods vehicles and passengers travelling between Hong Kong (HK) and Shenzhen (SZ) East.

An Environmental Impact Assessment (EIA) study for the *Liantang / Heung Yuen Wai Boundary Control Point and Associated Works* (the Project) was conducted in accordance with EIA Study Brief No. ESB-199/2008. The EIA Report (Register No.: AEIAR-161/2011) was approved on 24 March 2011 under the *Environmental Impact Assessment Ordinance* (EIAO) and an Environmental Permit (EP) was granted on 24 March 2011 (EP No: EP-404/2011) for the construction and operation of the Project.

During the design and construction services stage of the Project, the project scope (as detailed in *Section 2.4.3* of the EIA Report) and the preferred alignment (as shown in *Appendix 2.4* of the EIA Report) remain unchanged, but the works area boundaries and several road links have been slightly revised in certain areas. As a result of the proposed minor changes to the works area boundaries, an environmental review has been conducted and a Final Environmental Review Report was prepared dated 18 November 2011.

The construction of the Project has been divided into a series of Works Contracts and *Contract No. CV/2013/03* covers the site formation for the Boundary Control Point, modification of Lin Ma Hang Road and the associated works for the Project (hereinafter referred to as "the Contract"). The Contract works commenced in April 2013 and will take about 24 months to complete. Sang Hing Civil – Richwell Machinery Joint Venture (the Contractor) has been commissioned by the Civil Engineering and Development Department (CEDD) to construct the works under this Contract.

Since part of the archaeological mitigation measures recommended in the approved EIA Report for the Project falls within the Contract, ERM-Hong Kong, Limited (ERM) has been commissioned by the Contractor to implement relevant archaeological mitigation measures.

In accordance with Section 11.2.2 of the approved Environmental Monitoring & Audit (EM&A) Manual for the Project, an Archaeological Action Plan (AAP) following the Guidelines for Cultural Heritage Impact Assessment should be submitted to Antiquities and Monuments Office (AMO) for agreement prior to implementation of the archaeological mitigation measures.

With reference to the Environmental Permit No. AEP-404/2011, the approved EIA Report and the associated EM&A Manual, the Environmental Review Report and the latest information of the works areas of the Project, an *Archaeological Action Plan* (the *AAP*) was prepared to provide a detailed plan of archaeological works in relevant parts of the Project under this Contract and a

contingency plan to address possible arrangement if significant archaeological findings are unearthed during the archaeological works for agreement with AMO.

The *AAP* was agreed with AMO and a Licence to Excavate and Search for Antiquities (Licence No.362) was issued to Dr Liu Wensuo on 22 October 2013 under the *Antiquities and Monuments Ordinance*. With reference to the approved EIA report for the Project and the latest information of the works area of the Contract, the works area requiring archaeological works relevant to this Contract is shown in *Figure 2.1* and defined as the "Archaeological Works Area". The Archaeological Works Area is divided into three sections (Sections T1 to T3). According to the approved *AAP*, the archaeological works comprised archaeological survey at Sections T1 and T3 and archaeological watching brief (AWB) at Section T2.

The archaeological surveys were conducted on 8 November 2013 at Section T1 and 23 April 2014 at Section T3. The AWB was conducted on 15-16 January 2014 at Section T2. This *Archaeological Survey and Archaeological Watching Brief Report* (here after *Report*) presents the findings of the archaeological works conducted for the Contract.

1.1 TEAM MEMBERS

The individuals participated in the archaeological works include:

Ms Peggy Wong	Project Manager
Dr Liu Wensuo	Licenced Archaeologist
Mr Raymond Ng	Experienced Archaeologist
Ms Kitty Liu	Assistant Archaeologist

The post-archaeological fieldworks finds processing and interpretation of data retrieved were led by Dr Liu Wensuo, who was supported by Ms Peggy Wong, Ms Kitty Liu and Mr Raymond Ng. Photography of the artefacts recovered was undertaken by Ms Kitty Liu.

Authors of this *Report* include Dr Liu Wensuo, Ms Peggy Wong, Ms Kitty Liu and Mr Raymond Ng.

1.2 STRUCTURE OF THE REPORT

Following this introductory section, the remainder of this *Report* comprises the following sections:

Section 2 provides the background information of archaeological works areas;

Section 3 describes the scope of work;

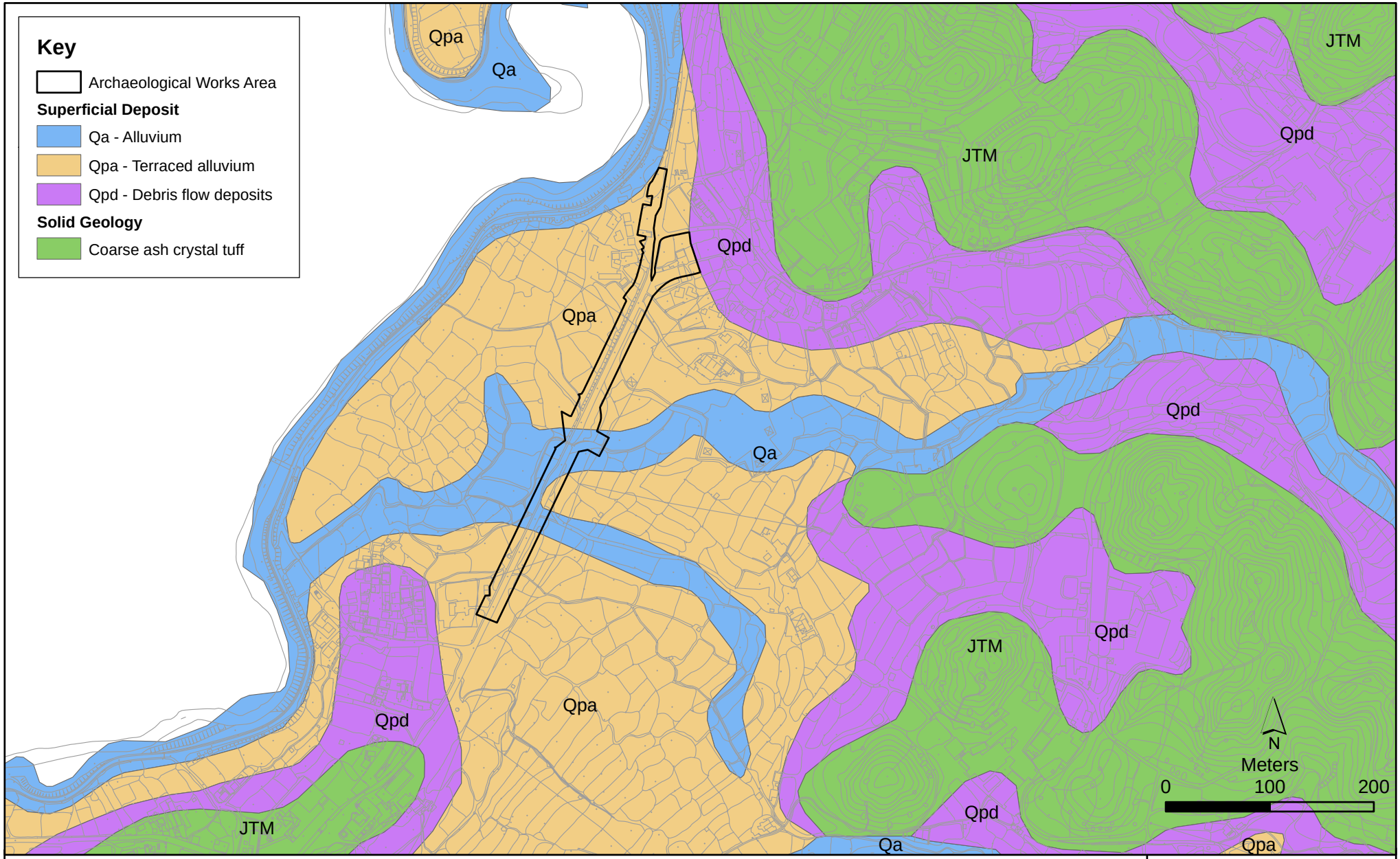

Figure 2.1

Geology of the Archaeological Works Area

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Section 4 presents the archaeological findings;

Section 5 presents the conclusions; and

Section 6 presents the bibliography.

The following annexes are also included:

Annex A presents the illustrations of the construction works

Annex B presents the land survey records showing locations where archaeological works conducted

Annex C presents the detailed records of test pits, monitoring locations and auger holes

Annex D presents the records of general artefacts unearthed

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2 BACKGROUND

2.1 GEOLOGY AND TOPOGRAPHY BACKGROUND

The Archaeological Works Area is located in the Ta Kwu Ling area to the south of the Shenzhen River in New Territory of Hong Kong. The Ta Kwu Ling area is bounded by the ridges of Robin's Nest (Hung Fa Leng) in the east including Wong Mau Hang Shan, and Cham Shan, Wa Shan and Tsung Shan in the southwest. The ground elevation of Ta Kwu Ling generally varies from +10mPD to +18mPD. The Archaeological Works Area is located along the Lin Ma Hang Road in the northwest side of Ta Kwu Ling, a rather lowland area.

The geology of the Archaeological Works Area consists of terraced alluvium (Qpa) on the northern and south part and alluvium (Qa) at the central part of the Archaeological Works Area (see *Figure 2.1*).

2.2 HISTORICAL BACKGROUND

The northern New Territories of Hong Kong area was incorporated into the imperial China when the Qin (秦) Dynasty conquered the Baiyue (百越) tribes in 214 BC. Since then Hong Kong became the territory of imperial China until 1898 when the area was leased to the Britain.

According to the oral history and local genealogical records, a major wave of immigrants from the inner part of China migrated to the northern New Territories during the southern Song (宋) Dynasty (AD1127 – 1279) when the Mongols invaded China. Although it is claimed that the five major clans of Pang (彭), Liu (廖) , Hau (侯) , Man (文) and Tang (鄧) were the first settlers in the northern New Territories during the Song Dynasty, it was also recorded that other clan groups should have established their villages in the area during the same or an even earlier period (1).

After the Manchurian established Qing (清) Dynasty in the mid-17th Century, the Evacuation Order (遷界令) was promulgated by the Qing government from 1661 to 1669 in which coastal population was ordered to move 50 *li (里)* (2) inland. Coastal communities were uprooted including the northern New Territories. Clan groups were allowed to return after 1669 yet the population of the area was greatly reduced. The Qing government then encouraged the Hakka (客家) people from Jiangxi, Guangdong and Fujian to move in, resulting a sharp increase of Hakka population in the area and the Chuk Yuen (竹園) village is a Hakka village located near to the Works Area(3).

The original Chuk Yuen village was a cluster of houses bounded by the meandering Shenzhen River in the west and the south, some 200m to the

(1) 北區區議會. 《北區風物志》. 1994。
(2) A Chinese measurement of distance. One li (里) is equal to 0.31 miles.
(3) Planning Department 2007 *Survey on Features with Cultural Heritage Value in the Sha Tau Kok, Ta Kwu Ling and Ma Tso Lung Areas*. Hong Kong: ERM-Hong Kong, Ltd.

southwest of the existing village. According to the village representative, Mr Yiu who is the 13th generation of the Yiu clan, the village was established about 300 years ago by Hakka residents of the Yaus (邱) and Yius (姚) originated from Dangshui (淡水) of Guangdong. However, the village was not recorded in any historical documents [(1) (2)]. Another village located nearby, Kaw Liu village (較寮村), has a rather short history. According to Mr Yiu, the village was found by the Mainland Chinese, in particular from the village of Lou Fang (羅芳村) across the border, in the late 1950s to early 1960s.

The Ta Kwu Ling Police Station, located south of the Archaeological Works Area, was built in 1905 to guard the northern frontier of Hong Kong. It was founded to police the border and the Frontier Closed Area was established in 1951 including the Archaeological Works Area.

2.3 *ARCHAEOLOGICAL BACKGROUND*

The desktop study identified no Site of Archaeological Interest listed by the AMO within or adjacent to the Archaeological Works Area [(3)]. Nevertheless, some archaeological investigations had been conducted within or adjacent to this area and the key findings are summarised in *Table 2.1*. Locations of auger holes and test pits previously conducted are presented in *Figure 2.2*.

Table 2.1 Key Findings of Previous Archaeological Projects

Survey (Year)	Description
Territory-wide Survey (1997-1998) [(4)]	Surface scan and three auger holes were conducted at Chuk Yuen but only modern porcelain shards were collected on the surface.
Liantang / Heung Yuen Wai Boundary Control Point and Associated Works (2010) [(5)]	A field investigation was carried out in 2010 at section between Lin Ma Hang and Frontier Closed Area Boundary. A total of 3 test pits and 18 auger holes were conducted. No cultural remains were identified within the Section between Lin Ma Hang and Frontier Closed Area Boundary but the result of one test pit and a number of auger holes located within and in close vicinity of the Archaeological Works Area revealed a layer of brown sandy soil with gray inclusion which is possibly the diffusion of organic materials. It indicated that this layer might be the former ground level and had certain degree of human activities such as agricultural activity in the past.
2010 Shenzhen River Regulation Stage 4 EIA Study (2010) [(6)]	A total of 3 test pits and 14 auger holes tests were conducted in 2010 within Pak Fu Shan Section and 3 test pits and 5 auger holes were conducted at Chuk Yuen. No primary deposits or significant archaeological deposits were identified. The chance of finding *in situ* archaeological deposits is considered very low.

(1) [清]舒懋官修, 王崇熙等纂. 《新安縣志》. 臺北：成文出版社. 1974。
(2) Volonteri, Simeon 1866, Map of San-On District (Kwangtung Province)
(3) Antiquities and Monuments Office, *List of Sites of Archaeological Interest in Hong Kong*, November 2012 , < http://www.lcsd.gov.hk/CE/Museum/Monument/form/list_archaeolog_site_eng.pdf>.
(4) Shenzhen Museum. 1998. *1997-1998 Territory-wide Archaeological Survey Report*.
(5) Civil Engineering and Development Department. 2010. *Liantang / Heung Yuen Wai Boundary Control Point and Associated Works EIA report*. [information online] available from: <http://www.epd.gov.hk/eia/register/report/eiareport/eia_1902010/index.html>
(6) Drainage Services Department. 2010. *Regulation of Shenzhen River Stage 4 EIA Study: EIA Report*. <http://www.epd.gov.hk/eia/register/report/eiareport/eia_1892010/index.html>

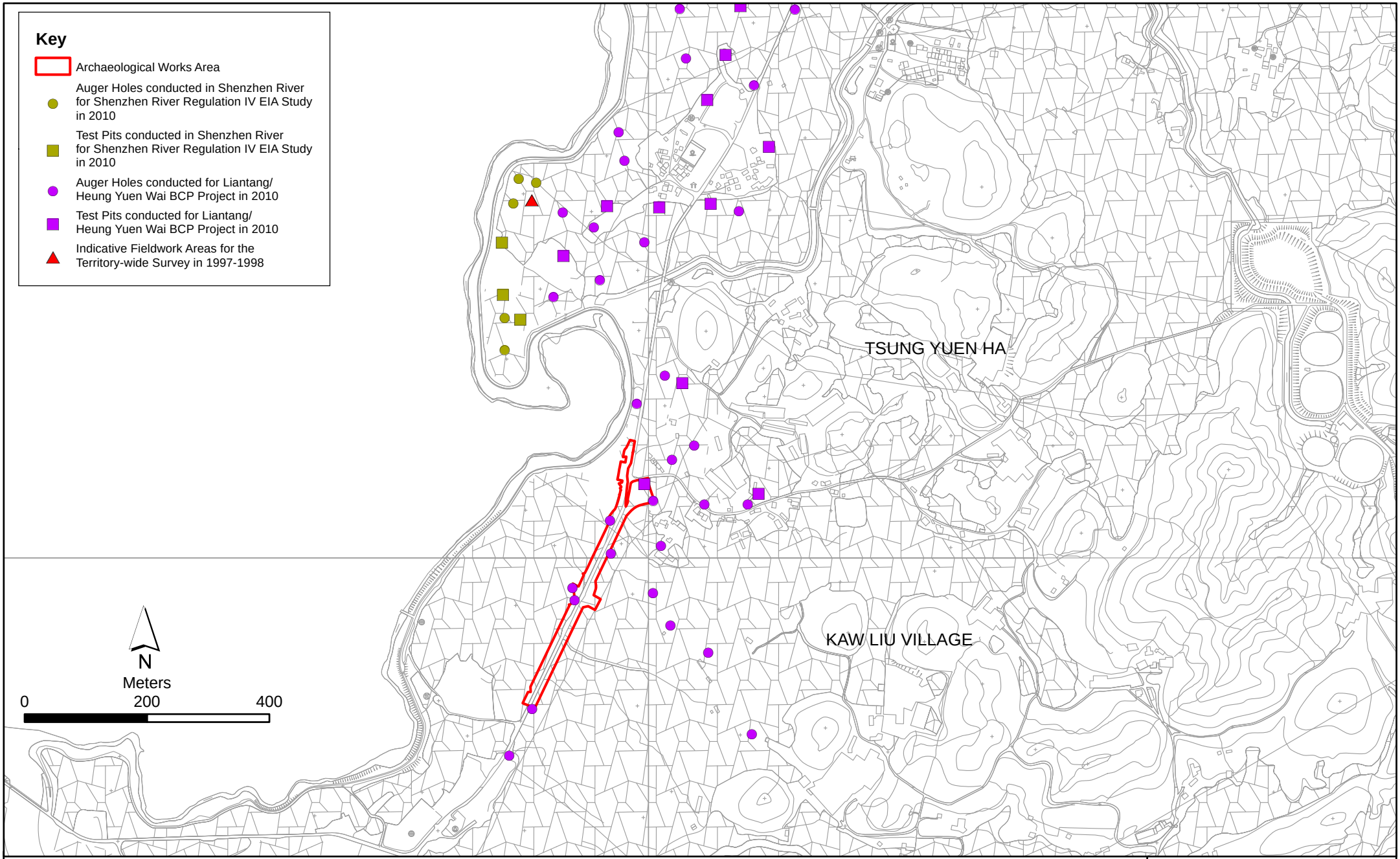

Figure 2.2

Fieldwork Locations of Previous Archaeological Surveys

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3 SCOPE OF WORK

3.1 CONSTRUCTION WORK

The general construction works involved in the Archaeological Works Area (as shown in *Figure 2.1*) is discussed below. Illustrations of the construction works are presented in *Annex A*.

1. Earth-filling works for Temporary Lin Ma Hang Road and 1.2m wide footpath (see *X- Section A1-A1* in *Annex A*).

2. Excavation to form trenches for underground pipe works and underground utilities (UU). Maximum excavation depth of 3.7m for Part B and 1.0m for Part A below the proposed road level is anticipated. Excavation will be carried out concurrently at Section T1 and Section T2 (see *Sketch SRJV/W47/SK029* in *Annex A*).

3. Backfilling and laying of underground pipe works and UU at Sections T1 and T2.

4. Completion of Section T1 and Section T2 of Permanent Lin Ma Hang Road.

5. Major construction works at Section T3 includes filling and paving of road (see *Drawing 60212563/C5/C00/1002C* in *Annex A*). (1)

3.2 SCOPE FOR ARCHAEOLOGICAL SURVEY AND AWB

For archaeological surveys, two (2) auger holes and three (3) test pits were conducted in Section T1; and one (1) auger hole and two (2) test pits were conducted in Section T3. For AWB, three (3) monitoring locations (i.e. M2 to M4) were conducted in Section T2. Locations of the test pits, auger holes and AWB monitoring conducted are shown in *Figure 3.1*.

In order to cover the concerned areas as widely as possible and obtain representative findings, allocation of these test pits, auger holes and monitoring locations adopted the evenly distributed pattern. For test pit and auger holes, approximately 50m intervals within the works area were adopted. For monitoring locations, approximately 5m sections were adopted.

Apart from the principle of even distribution, when determining the specific locations for testing and monitoring, the existing archaeological potential based on the geological and topographical setting; previous archaeological surveys; previous ground disturbance (e.g. locate at less disturbance area) and the potential impacts arisen from the proposed construction works have been taken into account.

(1) During the AAP stage, the construction works at Section T3 includes excavation (excavation depth of approximately 1.5m to 2m), filling, drainage and water main construction and permanent road construction, however as per the latest information, works at Section T3 only include filling and paving of road.

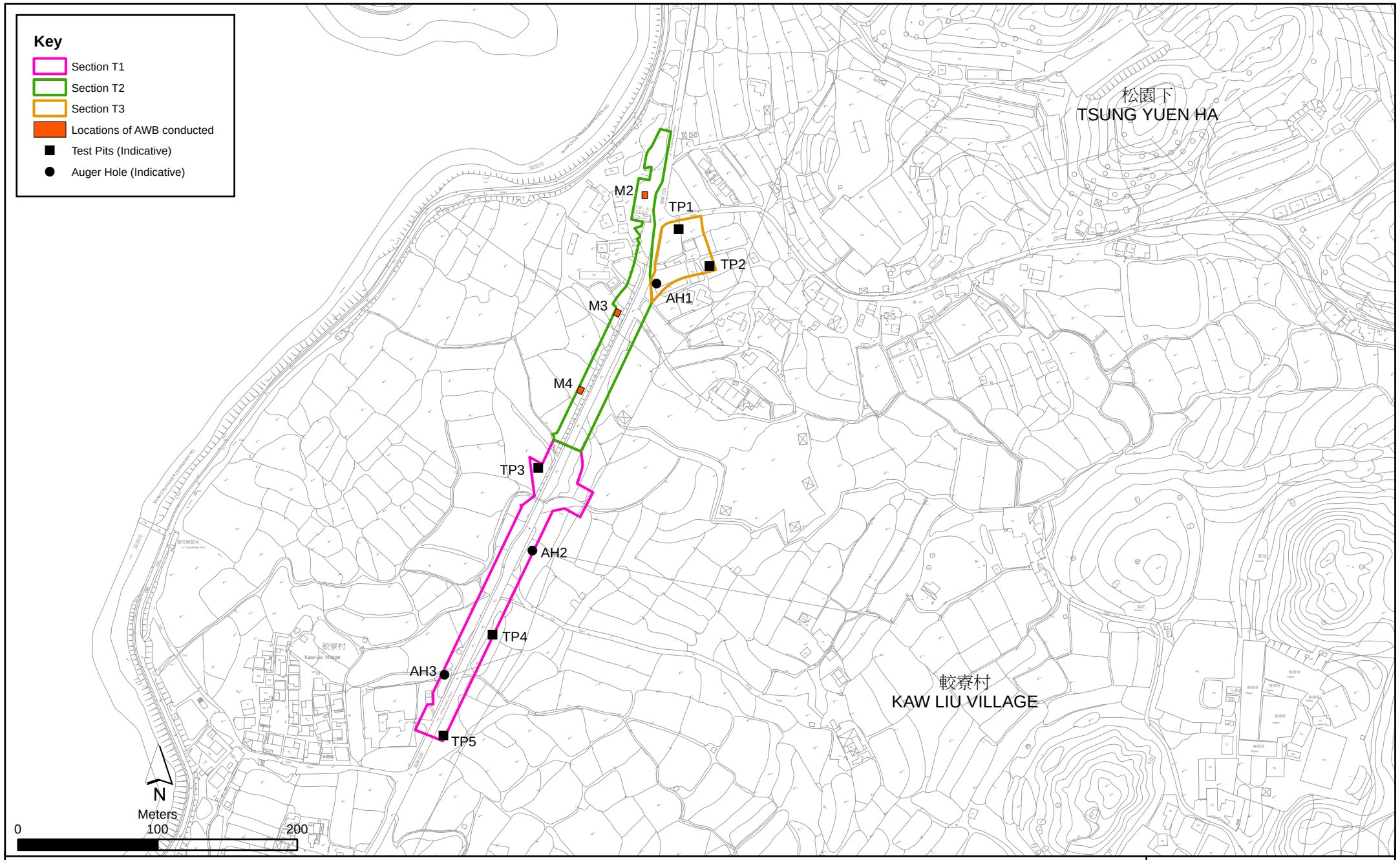

Figure 3.1

Locations of Archaeological Field Works

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Therefore, as it is found that based on previous archaeological survey results in the adjacent areas, the archaeological potential at alluvium soil is very low and only redeposit materials are expected to be identified. Thus, the allocation of the test pits were placed only in terraced alluvium areas considered to have higher potential than alluvium area. Also, the AWB at M1 which was originally required in *AAP* was cancelled as no excavation works covered by this Contract would be conducted at M1. AWB at M2 was relocated to the north of the Chuk Yuen (South) Sewage Pumping Station, in order to avoid damaging a pavilion sheltering the postal boxes of the Chuk Yuen village.

4 ARCHAEOLOGICAL FINDINGS

Locations of the test pits, auger holes and the AWB monitoring conducted are shown in *Figure 3.1*. Land survey records are presented in *Annex B*. Details of the archaeological survey and AWB results are presented in *Annex C*. The records of general artefacts unearthed are presented in *Annex D*.

4.1 ARCHAEOLOGICAL SURVEY IN SECTION T1

The fieldworks at Section T1 comprised TP3, TP4, TP5, AH2 and AH3.

TP3 was excavated down to 1.2m below existing ground level (bgl) by hand digging and an auger hole was drilled from the bottom of the pit down to 3.5m bgl. It comprises 7 layers (see *Table 4.1* and records of TP3 in *Annex C*). One pottery/tile shard and one greenish white *(Qingbai)* porcelain shard were unearthed from Layer 3 (see *Annex D*). The pottery/ tile shard shows a moderate degree of rounding which its typology and dating is uncertain. The greenish white porcelain shard is a dish shard dated to early Yuan Dynasty and it also shows slight degree of rounding. The rounding of finds suggests that they had been eroded by water force and were transported and moved to the site, which are secondary deposit. It is believed that the shards were from adjacent area at higher levels. However, as the quantity of discovery is too small, further interpretation on their original location cannot be determined.

Both TP4 and TP5 were excavated down to 1m bgl and comprised 3 layers (details see *Table 4.1* and relevant records in *Annex C*). No artefacts were discovered in both test pits.

AH2 was drilled down to 2m bgl and comprises 2 layers. AH3 was drilled down to 2.2m bgl and comprises 3 layers (details see *Table 4.1* and relevant records in *Annex C*). No artefact was identified in both auger holes.

In general, a hard and firm yellowish sandy alluvium layer and a hard and firm reddish sandy soil layer mottled with yellowish sandy soil existed within Section T1 (see *Table 4.1*). Only one pottery/tile shard and one *Qingbai* porcelain shard were unearthed from Layer 3 of TP3, but are believed to be secondary deposit (see *Annex D*).

4.2 AWB IN SECTION T2

The fieldwork at Section T2 comprised M2, M3 and M4.

M2 comprises two layers. Two concrete modern sewage drains were found under Layer 1 and cut into Layer 2. M2 was excavated down to 1.4m bgl and the excavation was terminated due to the safety concern, which a concrete underground sewage pipe was broken causing sewage flooding in the pit. Although required level of construction work was not reached, sterile layer has been reached at around 66cm bgl with the sewage pipe cutting into it.

M3 was excavated down to 2.5m bgl (required level of construction work) and comprises two layers. Layer 2 is regarded as sterile layer. No artefact was identified in M3.

M4 was excavated down to 2.5m bgl (required level of construction work) and comprises seven layers. Layer 7 is regarded as sterile layer. Water table was reached at 2.5m bgl.

In general, a hard and firm reddish sandy soil layer mottled with yellowish sandy soil existed within Section T2 (see *Table 4.1*). No artefact was identified in all monitoring locations. Although Layer 4 of M4 is identical to Layer 3 of TP3 at Section T1, which such layer had artefacts unearthed at TP3; no artefact was unearthed at M4.

4.3 *ARCHAEOLOGICAL SURVEY IN SECTION T3*

The fieldwork at Section T3 comprised TP1, TP2 and AH1. These test pits and auger hole were located at terraced area where potential cultural layers were identified in 2010 survey.

TP1 was excavated down to approximately 1.2m bgl and drill to 2.8m bgl. It comprises seven layers. One blue and white porcelain shard dated to the early 20th Century was unearthed in Layer 2 (see *Annex D*). Layers 5 to 7 are regarded as sterile layers which the data of Layer 6 and Layer 7 was obtained by augering.

TP2 was excavated down to approximately 1m bgl. It comprises five layers. One blue and white porcelain shard dated to the early 20th Century was unearthed at Layer 2 (see *Annex D*). Layer 4 of TP2 is regarded as sterile layer of TP3 to TP5, AH2 to AH3, and M2 to M4.

AH1 was drilled down to 60cm bgl and comprises three layers. However as they were all modern fill layers, they were coded as 1a, 1b and 1c. Layer 1c is a loose greyish soil layer with large amount of asphalt pieces, thus it prohibited further augering.

In general, findings in Section T3 accord with findings in Sections T1 and T2. Two blue and white porcelain shards were identified. Corresponding layers to the brown sandy soil with grey inclusion identified in 2010 survey could be found (detailed in *Section 4.4*).

4.4 *STRATIGRAPHY*

4.4.1 *General Description*

Stratigraphy of the test pits, auger holes and monitoring locations are presented in *Table 4.1*. In general, the strata could be categorised into fill layers/ top soil layers, alluvium layers and sterile layers.

Except AH2, surface of all test pits, auger holes and monitoring locations are disturbed by modern fill layers or soil layers containing large amount of roots of plantations. Layer 1 of AH2 was the layer where artefacts were yield at corresponding layers of TP3 and TP2.

Artefacts were unearthed at two layers:

1) A soft and loose light greyish soil layer containing roots of plantation, which was found as Layer 2 of TP1 and TP3, Layer 3 of M4 and Layer 1 of TP2. One blue and white porcelain shards were unearthed in layer 2 of TP1;

2) A hard and firm yellowish sandy alluvium layer which was found as Layer 2 of TP2, Layer 3 of TP3, Layer 2 of TP4, TP5 and AH3, Layer 4 of M4, as well as Layer 1 of AH2. One blue and white porcelain shards were unearthed at Layer 2 of TP2. One pottery/tile shard and one greenish white *(Qingbai)* porcelain shard were unearthed from Layer 3 of TP3.

Concerning the sterile layers, a hard and firm reddish sandy alluvium layer with yellowish mottles was found distributed in most of the test pits, auger holes and monitoring locations (except TP1 and AH1). Variations on the reddish and yellowish compositions of the sterile could be observed. Moreover, a soft and loose greyish white sandy layer was found locating in deeper area which could only be revealed by augering (e.g. 3.2m bgl as Layer 7 of TP3 and 2.4m bgl as Layer 7 of TP1)

4.4.2 *Relations to Previous Study*

Making reference to the field investigation findings between Lin Ma Hang and Frontier Closed Area Boundary conducted in 2010 (1), layers of brown sandy soil with grey inclusion were identified at terrace area which may indicate the existent of past human activity. AH0308 and AH0309 fell within the works area of Section T1. TP0303 and AH0305 are within Section T3. TP0303, AH0307, AH0309 which are within/ in vicinity of Section T2. Layers identified to be with archaeological potential include Layer 3 of TP0303, Layers 2 and 5 of AH0305, Layer 5 of AH0308, Layers 2 and 7 of AH0309.

Among these layers identified to be with archaeological potential, no layer corresponding to Layer 2 of AH0305, Layer 5 of AH0308 and Layer 7 of AH0309 was identified in the current excavation or AWB.

Layer 2 of TP3 in Section T1, was considered similar to layer 2 of AH0309. Taking reference on findings in Section T2 and T3, as Layer 2 of TP3 is equivalent to Layer 3 of M4, Layer 2 of TP1 and Layer 1 of TP2, these layers are also considered similar to layer 2 of AH0309. These layers are fill layers and top soil layers which are with very low archaeological significance. They are not cultural layers and did not yield features or significance artefacts.

(1) Agreement No. CE 45/2008, Chapter 12 "cultural heritage impact assessment" of *Liantang / Heung Yuen Wai Boundary Control Point and Associated Works Environmental Impact Assessment Report.*

Only one blue and white porcelain shard dated to early 20th Century was unearthed at Layer 2 of TP1 but all other layers, including Layer 2 of AH0309, yielded nil findings. Therefore layer 2 of AH0309 is also considered to be with very low archaeological significance.

Layer 3 of TP1 and TP2 (1) corresponds to Layer 3 of TP0303. As it is also equivalent to Layer 5 of TP3 and M4, these layers are also considered corresponding to Layer 3 of TP0303. No cultural layer, archaeological feature or artefacts was identified, therefore, these alluvium layers are considered to be with no archaeological significance.

Layer 4 of TP2 corresponds to Layer 5 of AH0305 (2). Layer 4 of TP2 is also equivalent to Layer 2 of AH2, M2 and M3; Layer 3 of TP4, TP5 and AH3, Layer 6 of TP3; and Layer 7 of M4, therefore these layers are also considered corresponding to Layer 5 of AH0305. These layers are regarded as sterile layers, therefore they are considered to be with no archaeological significance.

(1) Layer 4 of TP0303 is also equivalent to Layer 4 of TP1.
(2) Layer 6 of AH0305 is also equivalent to Layer 5 of TP1 and TP2.

Table 4.1 Stratigraphy

	Description of Stratigraphy	Section T1					Section T2			Section T3		
		TP3	TP4	TP5	AH2	AH3	M2	M3	M4	TP1	TP2	AH1
Fill layers and top soil layers	Fill layer containing large amount of rocks			Layer 1								
	Fill layer with soft and loose brownish sandy soil and modern garbage						Layer 1			Layer 1		
	Fill layer with reddish sandy alluvium layer with yellowish mottles								Layer 1			
	Soft and loose dark greyish top soil layer containing roots of plantation	Layer 1	Layer 1			Layer 1		Layer 1	Layer 2			Layer 1a
	Loose and soft greyish sandy soil with yellow and red mottles											Layer 1b
	Loose greyish soil layer with large amount of asphalt pieces											Layer 1c
	Soft and loose light greyish soil layer containing roots of plantation	Layer 2							Layer 3	Layer 2 Artefact: 1 blue and white porcelain shard	Layer 1	

	Description of Stratigraphy	Section T1					Section T2			Section T3		
		TP3	**TP4**	**TP5**	**AH2**	**AH3**	**M2**	**M3**	**M4**	**TP1**	**TP2**	**AH1**
Alluvium layers	Hard and firm yellowish sandy alluvium layer	Layer 3 Artefacts: 1 pottery/ tile shard and 1 Qingbai porcelain shard	Layer 2	Layer 2	Layer 1	Layer 2			Layer 4		Layer 2 Artefact: 1 blue and white porcelain shard	
	Hard and firm brownish yellow sandy alluvium layer	Layer 4										
	Hard and firm brownish alluvium layer with reddish mottles	Layer 5							Layer 5	Layer 3	Layer 3	
	Soft yellowish silty alluvium layer								Layer 6			
	Hard and firm yellowish sandy alluvium layer with grey inclusion									Layer 4		
Sterile Layers	Hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	Layer 6	Layer 3	Layer 3	Layer 2	Layer 3	Layer 2	Layer 2	Layer 7		Layer 4	
	Hard and firm yellowish sandy alluvium layer with reddish mottles (Sterile Layer)									Layer 5	Layer 5	
	Hard, firm and pure reddish sandy layer (Sterile Layer)									Layer 6		
	Soft and loose greyish white sandy layer (Sterile Layer)	Layer 7								Layer 7		

5 CONCLUSIONS

According to the approved *AAP*, the archaeological works within the Archaeological Works Area comprised archaeological survey at Sections T1 and T3 and archaeological watching brief (AWB) at Section T2.

5.1 ARCHAEOLOGICAL SIGNIFICANCE ASSESSMENT

No cultural layer was identified within the Archaeological Works Area. The Archaeological Works Area is concluded to have very low archaeological significance based on the following reasons:

The Archaeological Works Area is mainly low lying alluvium ground

Field data indicated that stratigraphy of the Archaeological Works Area mainly composed of alluvium layers. Take TP3 for instance, alluvium layers beneath top soil are more than 2.5m thick. The only layer that yielded artefacts was Layer 3. Nevertheless, it is not cultural layer as the soil type of Layer 3, as well as Layers 4 to 6 beneath it, are typical alluvium layers. No other features were unearthed in Layer 3 of TP3, as well as in corresponding layer in other test pits and auger holes.

No significance archaeological deposits identified

Only TP1, TP2 and TP3 yield small amount of artefacts. The pottery / tile shard and *Qingbai* porcelain shard unearthed were small in pieces and their rounding which suggests that they had been eroded by water force and were transported and moved to the site. Thus, the artefacts identified are concluded to be secondary deposit. With the blue and white porcelain shards dated to the early 20th Century further indicated that the layer should not be formed earlier than the early 20th Century. They are considered to have very low archaeological significance.

Besides, it is also believed that the artefacts were originated from nearby area at higher level. The *Qingbai* porcelain yield at TP3 that could date as early as the Yuan Dynasty indicated that human activity as early as the Yuan Dynasty at nearby area existed. However, as the quantity of discovery is too small, further interpretation on the original location of the artefacts unearthed cannot be determined.

Terrace layer with higher archaeological significance does not exist

Reference is made to the field investigation findings between Lin Ma Hang and Frontier Closed Area Boundary conducted in 2010 (1), layers of brown sandy soil with grey inclusion were identified at terrace area which may indicate the existent of past human activity. Corresponding layers were

(1) Agreement No. CE 45/2008, Chapter 12 "cultural heritage impact assessment" of *Liantang / Heung Yuen Wai Boundary Control Point and Associated Works Environmental Impact Assessment Report.*

identified, but they are considered as fill layers and top soil layers, or alluvium layers that are with very low archaeological significance. According to the test pits findings, the grey inclusions are confirmed to be the rotten root of weeds of the low laying river bank area or remains of abandoned agricultural land of the early 20th Century. Therefore, the Archaeological Works Area and the layers of brown sandy soil with grey inclusion identified in 2010 are concluded to be with very low archaeological significance.

5.2 *JUSTIFICATION ON SUFFICIENCY ON DATA GATHERED*

5.2.1 *Section T1*

TP4, TP5 and AH2 are located at the east of Lin Ma Hang Road. TP4 and TP5 were excavated to 1m and reached sterile layer at 24cm and 25cm bgl. AH2 was drilled to 2m bgl and reached sterile layer at 30cm bgl. TP3 and AH3 are located at the west of Lin Ma Hang Road. TP3 was excavated to 1.2m bgl and further drilled to 3.5m bgl, which sterile layer was reach at 80cm bgl. AH3 was drilled to 2.2m bgl and reached sterile layer at 65cm bgl. According to the construction method, impacted depth at the east of Lin Ma Hang Road will be 1m bgl and that at the west will be ranged from 2m to 3.7m bgl while the southwest portion will be shallower than the northeast portion and the deepest excavation will occur at area near TP3. The excavation depth of test pits and auger holes at different locations of Section T1 has reached the impacted level of the construction work.

5.2.2 *Section T2*

Stratigraphy of M2, M3 and M4 also reveal that Section T2 mainly composed of alluvium layers and sterile layers were reached in each monitoring location. Although Layer 4 of M4 is identical to Layer 3 of TP3 at Section T1, which such layer had artefacts unearthed at TP3; no artefact was unearthed at M4. On the other hand, although the excavation depth of M2 was not equivalent to the impacted depth, but sterile layer was reach. Location M2 is also revealed to have been heavily disturbed by construction of modern concrete sewage drain.

5.2.3 *Section T3*

According to latest information, no excavation is required at Section T3. Sterile layers of TP1 and TP2 were reached. As AH1 did not reach sterile layer, alternative locations at nearby area had also been drilled. Fill layers were found and augering was prohibited by stone or flat hard surface which is likely a concrete surface. This indicates that nearby area of AH1 also has very low archaeological potential.

In summary, adequate field data has been obtained to reflect the stratigraphy condition of Sections T1 to T3 to the impacted level. All the sections are concluded to have very low archaeological potential and the artefacts identified are of low significance. Therefore the field data confirmed that the

Archaeological Works Area has very low archaeological significance, no further archaeological action is required.

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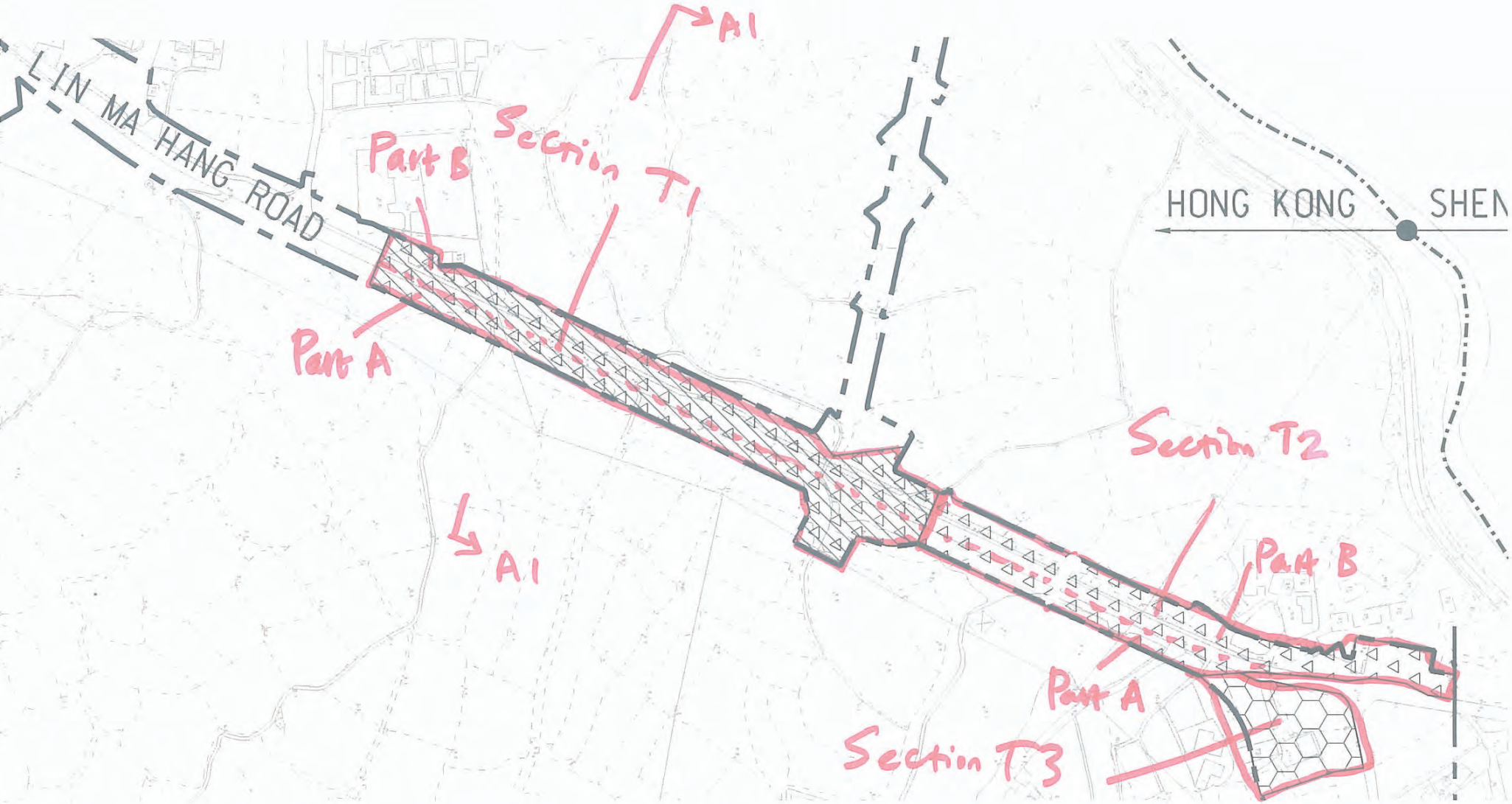
Annex A

Illustration of Construction Works within the Archaeological Works Area



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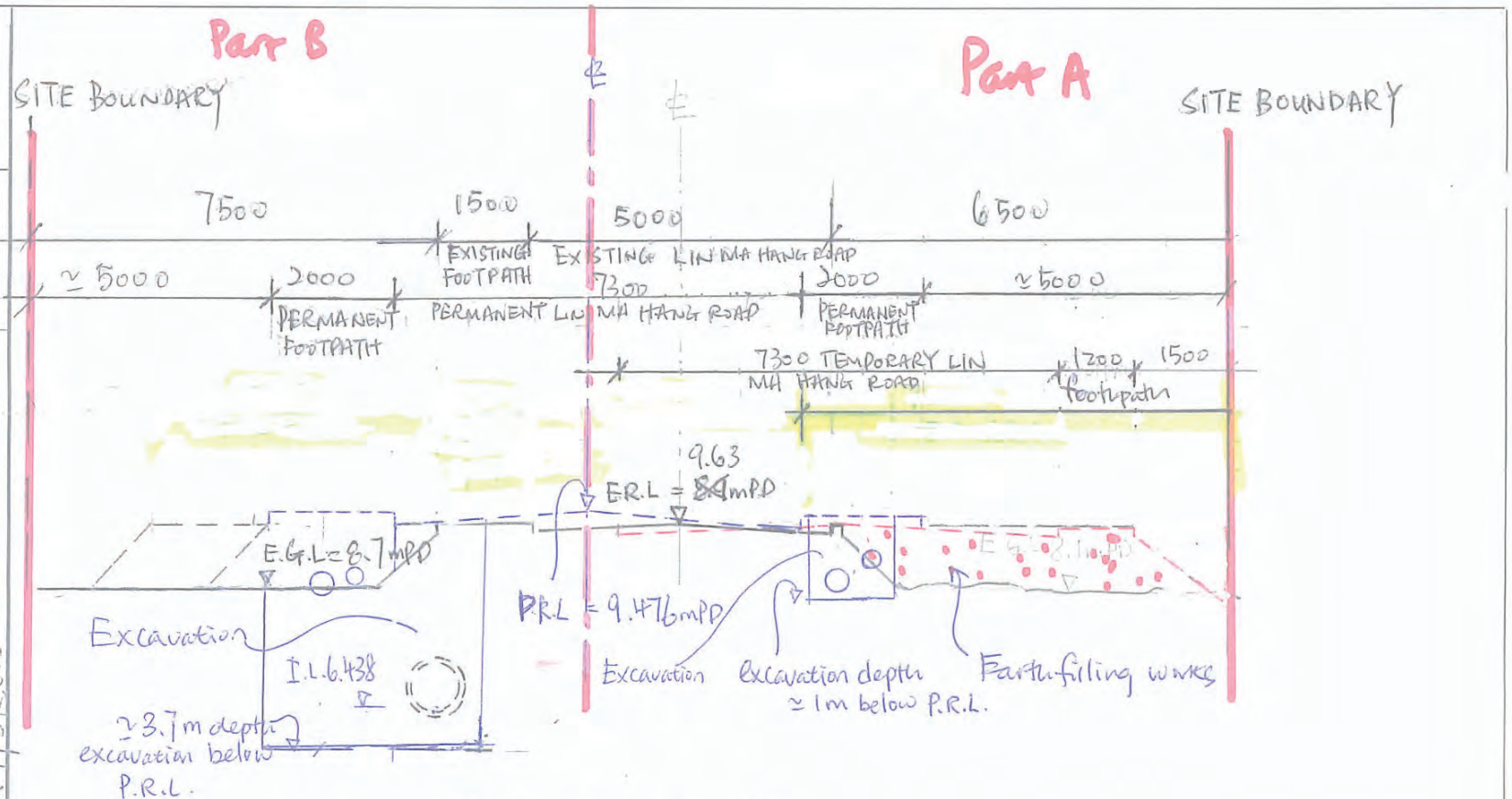


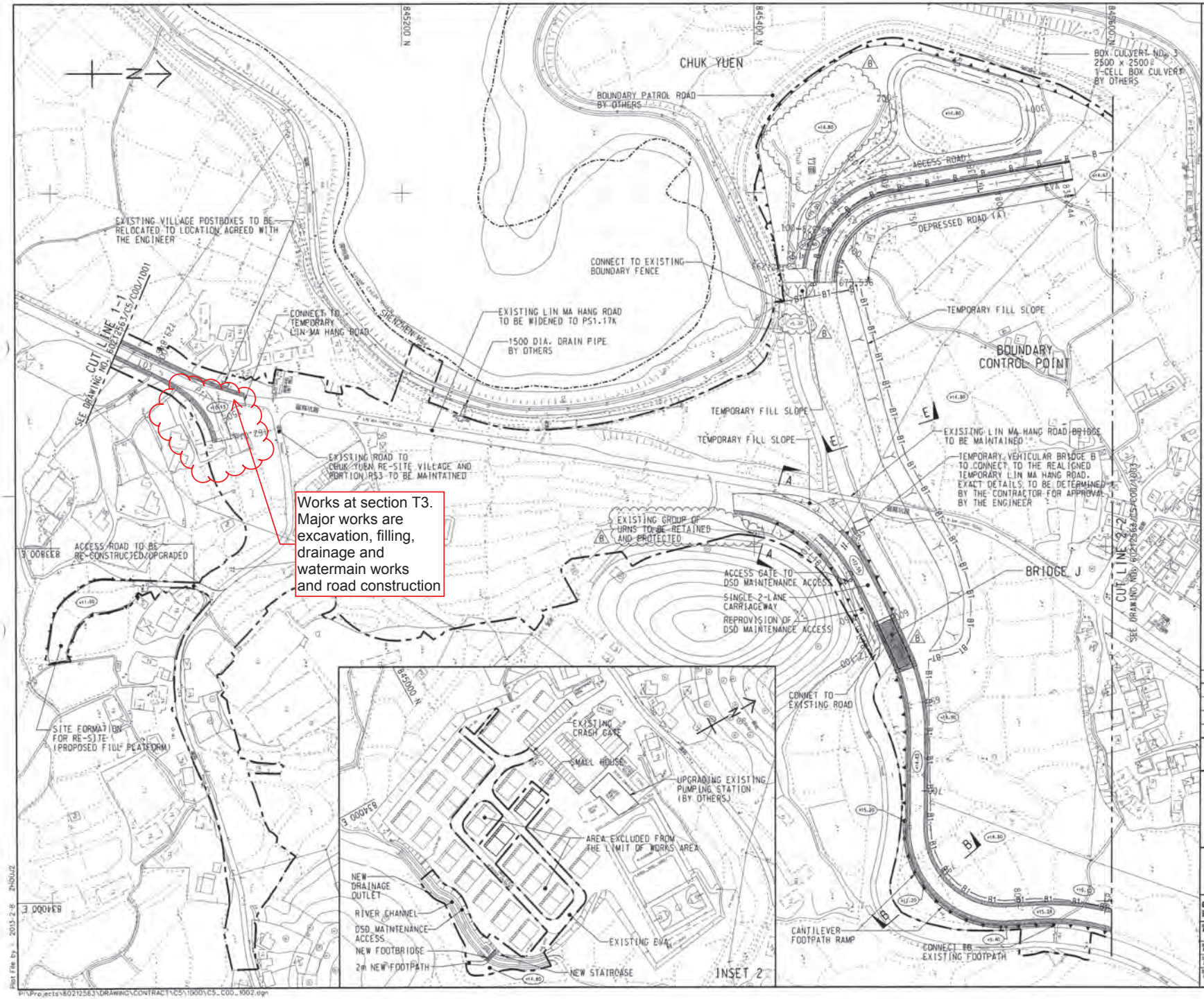
X - Section A1 - A1
(LOOKING EASTBOUND)

Legend
- Permanent Lin Ma Hang Road
- Temporary Lin Ma Hang Road
- Existing Lin Ma Hang Road

E.G.L = Existing Ground level
E.R.L. = Existing Road level
P.R.L. = Proposed Road level

Sketch No: SRTJ/W47/SK030 Rev: 0
Title: Archaeological Works - Section (Sheet 2 of 3)

Sheet 1
Date 22/5/2013
Contract No. CV/2013/03
Drawing No. SRTJ/W47/SK018
Drawing TEMPORARY LIN MA HANG ROAD - X-SECTION
Designed TJL
Checked Liyang/Heung Yuen Wai Boulevard
Drawn SD
Approved SANG HUNG CIVIL - RICHWEL MACHINERY JV



NOTE:

1. FOR NOTE AND LEGEND REFER TO DRAWING NO. 60212563/C5/C00/1001.

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B	TENDER ADDENDUM NO. 2	WLC	KYN	FEB-13
A	TENDER ADDENDUM NO. 1	WLC	KYN	JAN-13
-	TENDER DRAWING	WLC	KYN	JAN-13

CEDD 土木工程拓展署 Civil Engineering and Development Department

LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT SITE FORMATION AND INFRASTRUCTURE WORKS – CONTRACT 5

GENERAL LAYOUT

SHEET 2 OF 3

AECOM

DRG.NO. 60212563/C5/C00/1002C

DESIGNED BY WLC | CONTRACT NO. CV/2013/03 | A. DIV. APPROVE

DRAWN BY ZJ | STATUS WORKING DRAWING

SCALE A1 1 : 1000 | DIMENSIONS ARE IN METRES

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Plot File by : 2013-2-8 ZHOU2

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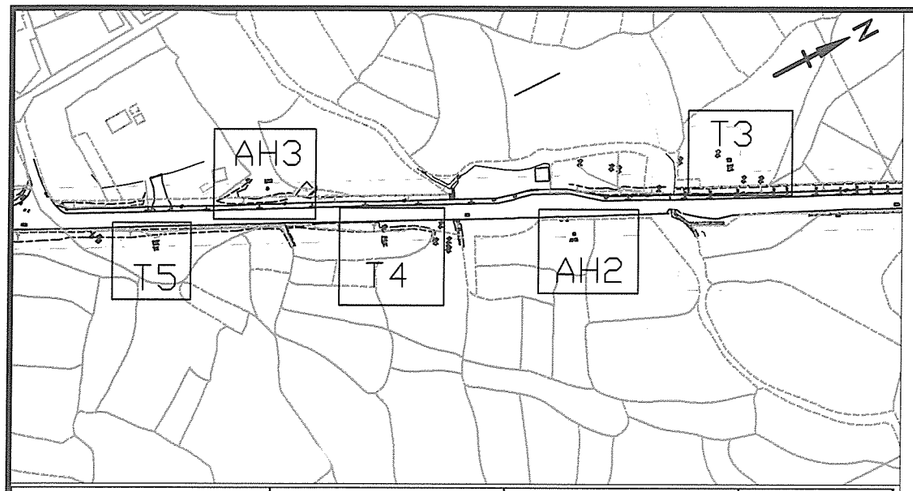
Annex B

Land Survey Record



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06	833631.614	844950.153	8.154
07	833633.194	844949.573	8.178
08	833632.606	844950.432	7.057
09	833628.448	844891.255	8.886
10	833600.818	844831.395	8.895
11	833600.328	844830.006	8.946
12	833598.973	844830.461	8.906
13	833599.589	844831.848	8.876
14	833599.847	844831.052	7.924
15	833565.569	844759.264	8.816
16	833564.582	844759.894	8.84
17	833565.125	844757.87	8.909
18	833563.953	844758.181	8.919
19	833564.792	844758.677	7.908
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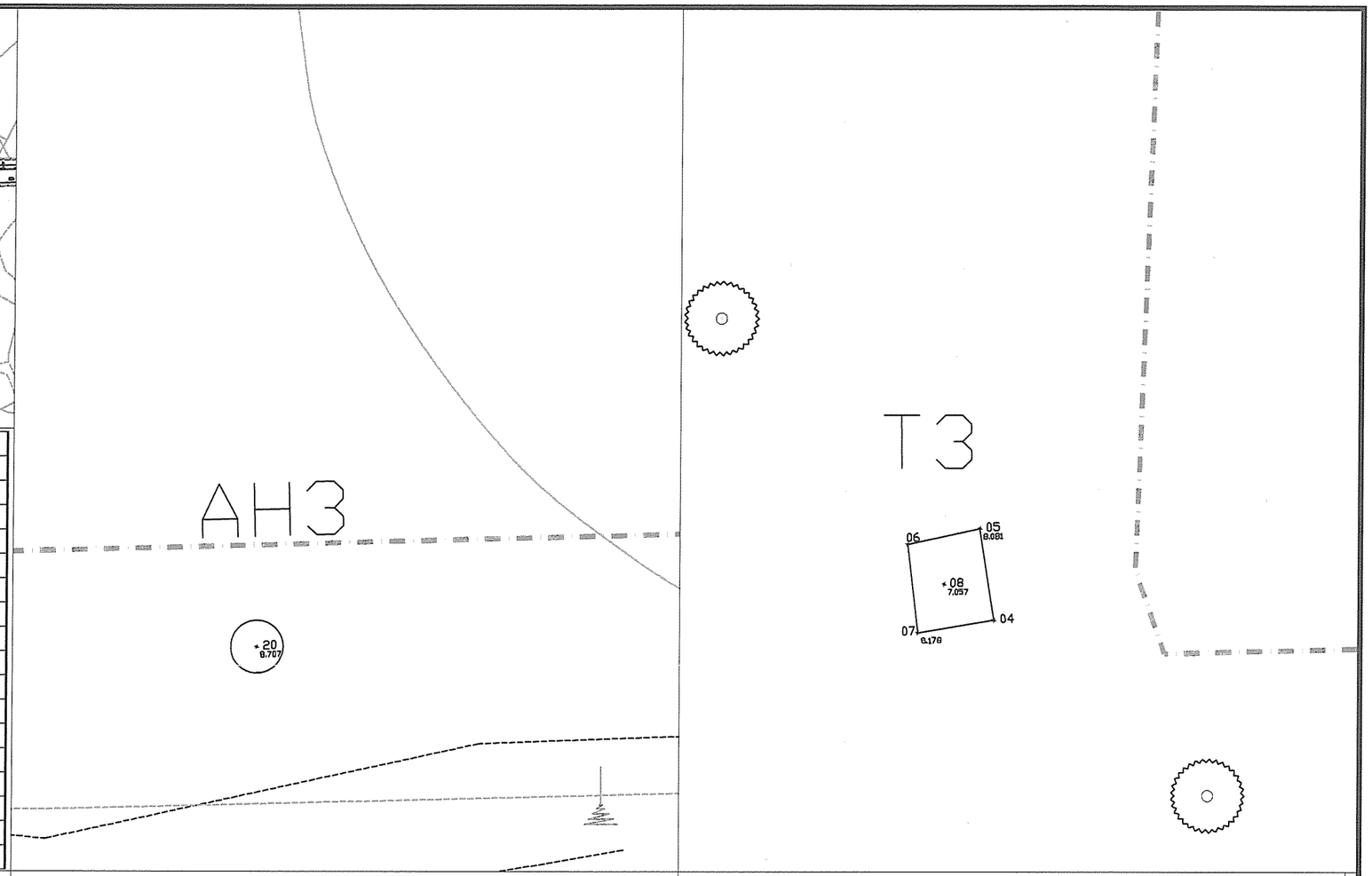

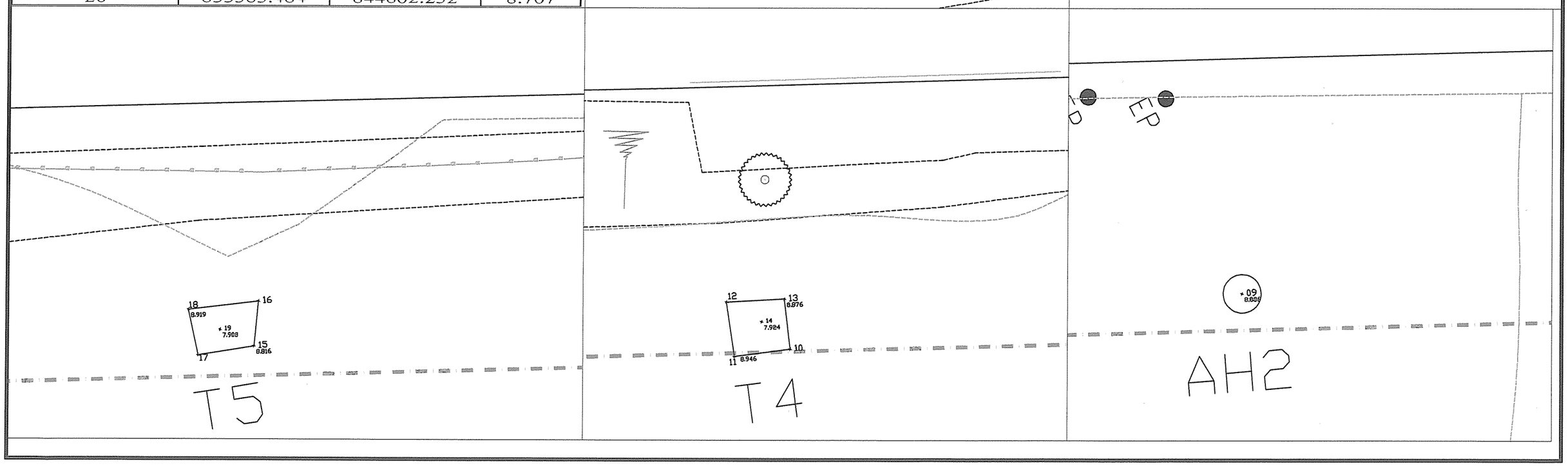

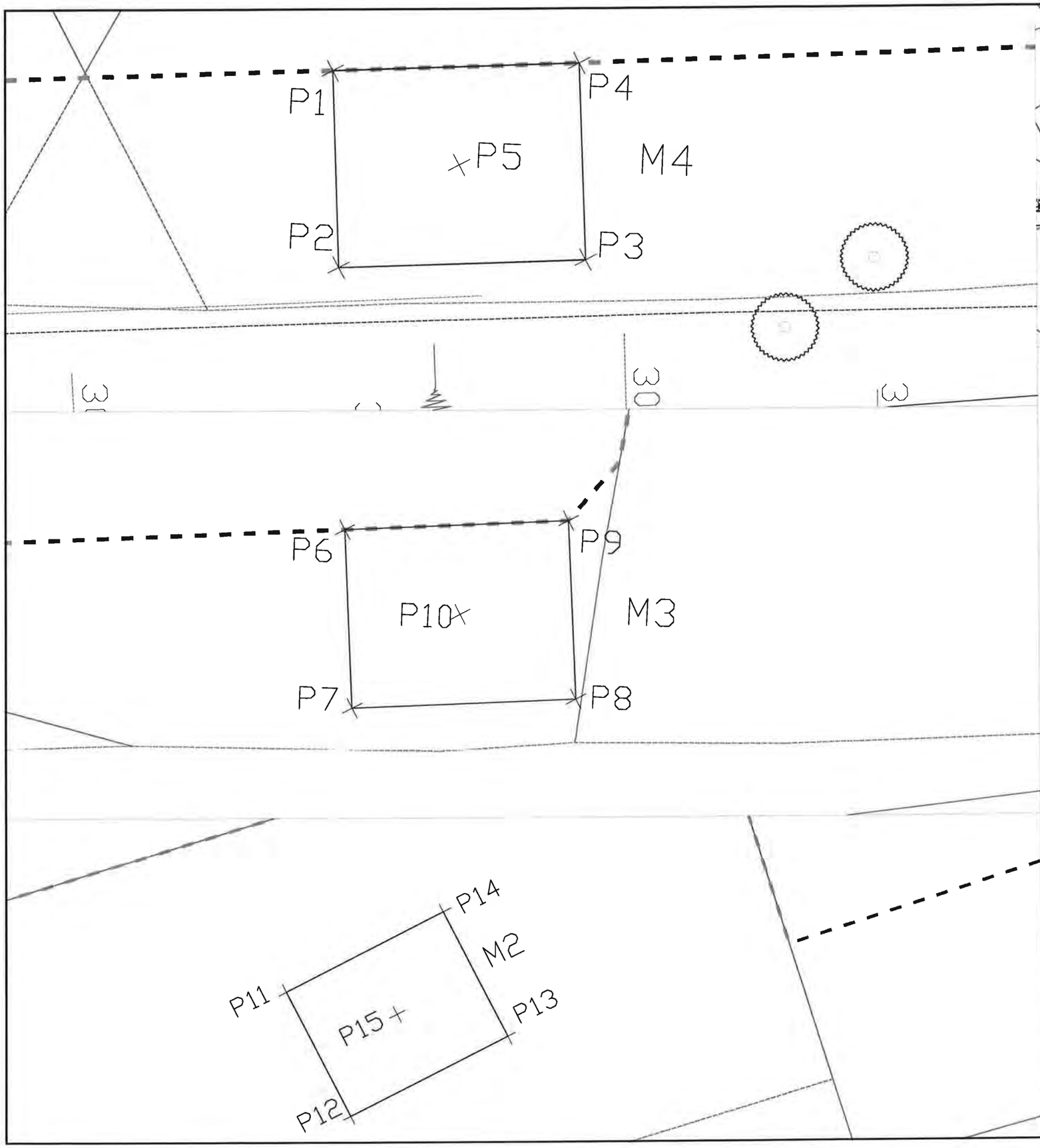

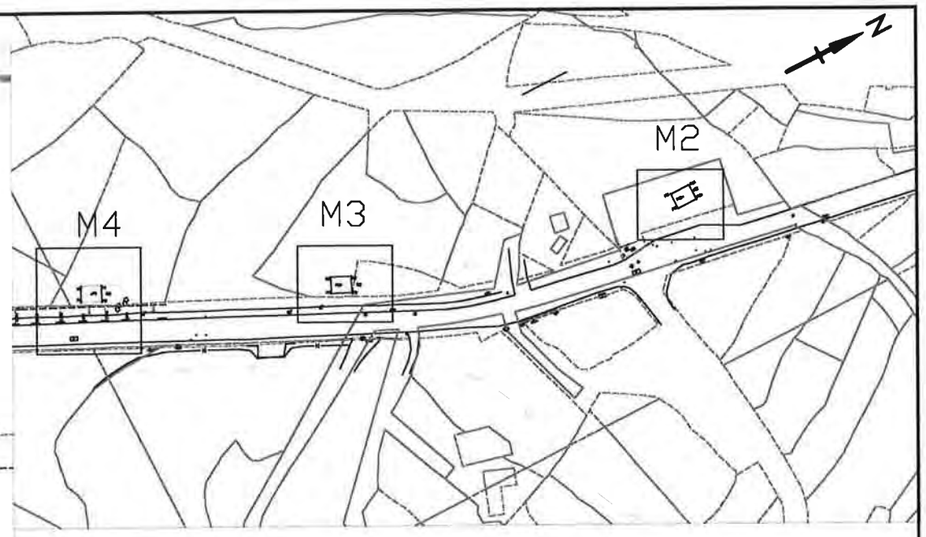

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P2	833663.619	845002.746	8.56
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P4	833662.166	845008.982	8.60
P5	833662.893	845005.864	8.63
P6	833686.369	845059.838	9.33
P7	833689.996	845058.152	9.32
P8	833692.107	845062.679	9.32
P9	833688.482	845064.369	9.31
P10	833689.237	845061.258	9.32
P11	833706.854	845143.119	11.49
P12	833710.854	845143.119	11.51
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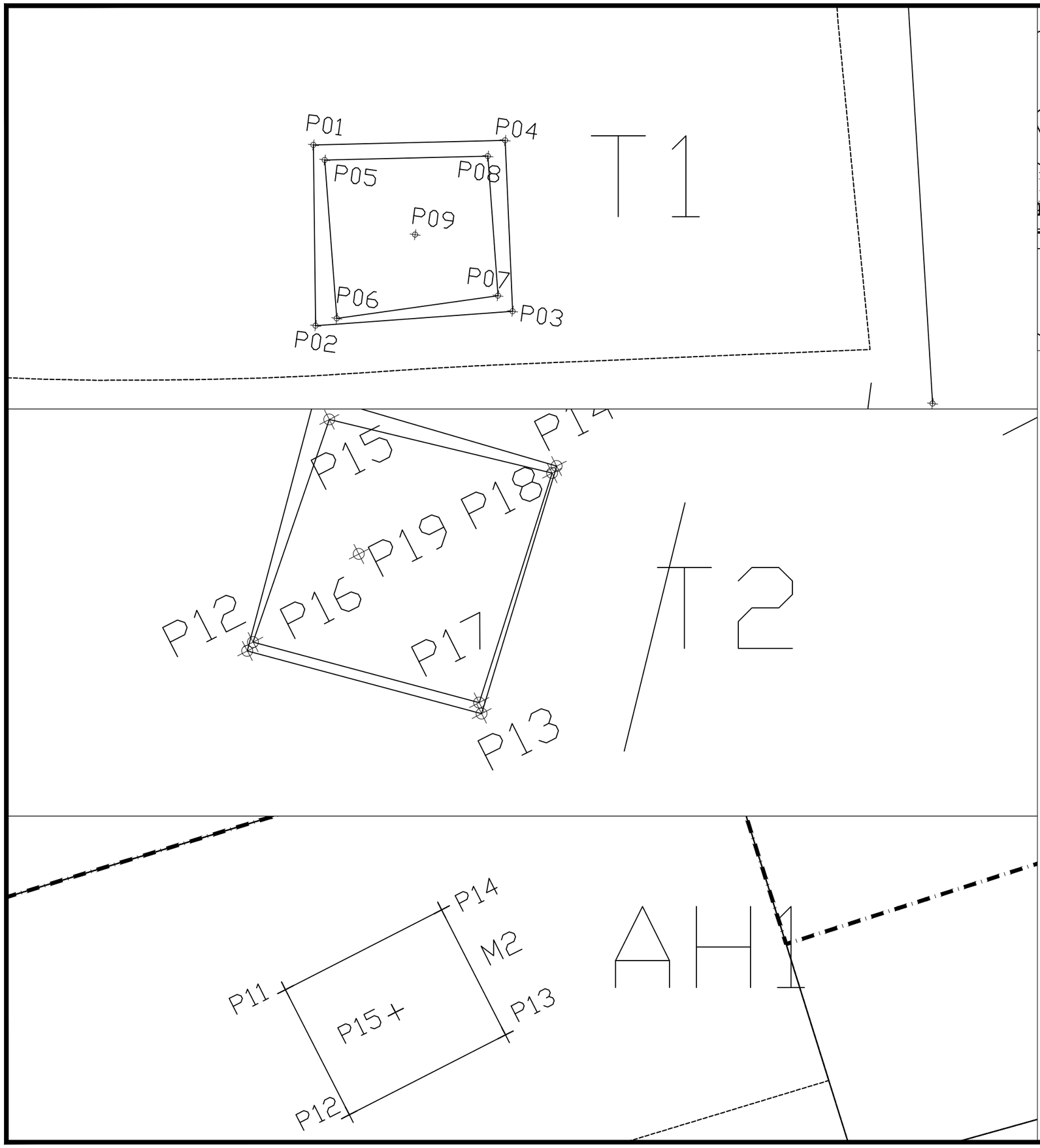

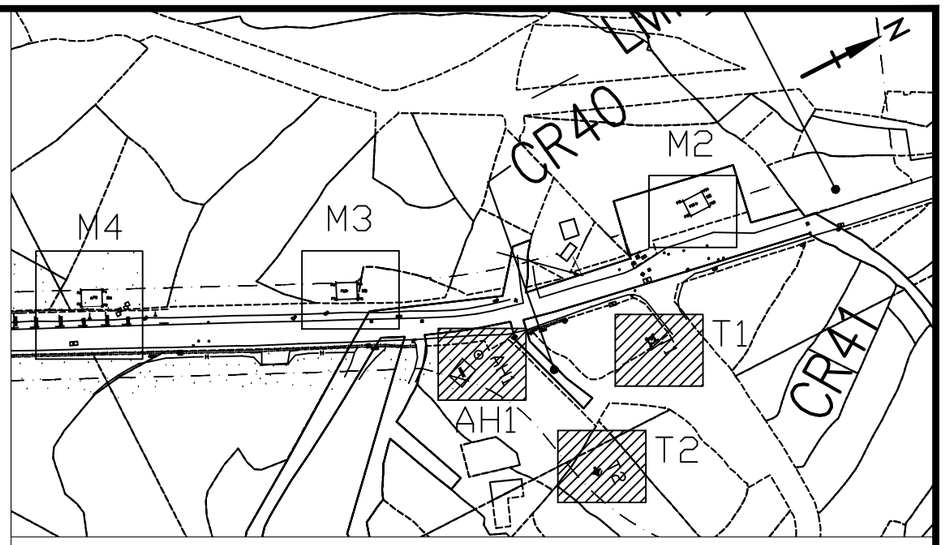

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P02	833734.147	845120.349	11.354
P03	833733.767	845122.178	11.454
P04	833732.175	845121.895	11.620
P05	833732.583	845120.228	10.276
P06	833734.053	845120.538	10.274
P07	833733.64	845122.021	10.272
P08	833732.345	845121.753	10.308
P09	833733.171	845121.169	10.230
P10	833717.39	845082.473	10.943
P11	833754.426	845094.875	10.823
P12	833755.327	845094.066	10.928
P13	833756.071	845094.891	10.907
P14	833755.218	845095.713	10.829
P15	833754.554	845094.883	9.897
P16	833755.303	845094.108	9.859
P17	833756.021	845094.904	9.954
P18	833755.237	845095.68	9.888
P19	833755.164	845094.723	9.811

Annex C

Detailed Records of Test Pits, Monitoring Points and Auger Holes

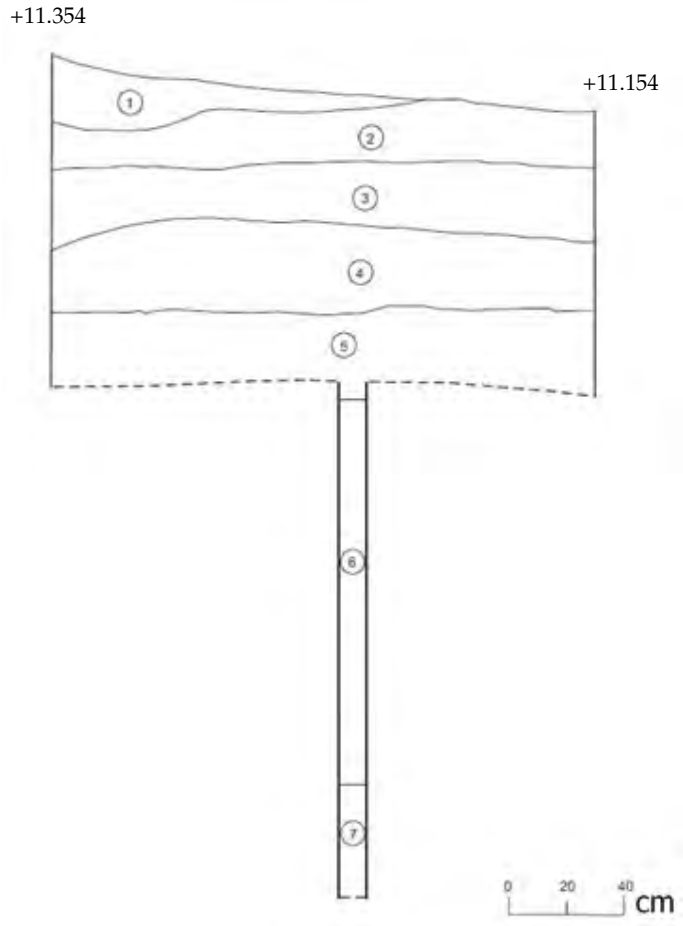
1 TEST PIT

Site Code	NLMHR2013		Test Pit No.	TP1
Test Pit SE corner Coordinate (E,N)	833733.767	845122.178	Test Pit Measurement (LxW) (m)	1.9x1.9
Digging Method	Hand digging and excavator		Ground Level (mPD)	11.454

Stratigraphy

Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Fill layer with soft and loose brownish sandy soil and modern garbage	None	Modern	0	0-23
2	Soft and loose light greyish soil layer containing roots of plantation	1 blue and white porcelain shard	Modern	0-23	19-24
3	A hard and firm brownish alluvium layer with reddish mottles	None	Earlier than Layer 2 of TP2	20-40	18-28
4	A hard and firm yellowish sandy alluvium layer with grey inclusion	None	Earlier than Layer 2 of TP2	44-67	22-34
5	A hard and firm yellowish sandy alluvium layer with reddish mottles (Sterile Layer)	None	N/A	70-90	> 30
6 (auger hole)	A hard, firm and pure reddish sandy layer (Sterile Layer)	None	N/A	100	140
7 (auger hole)	Soft and loose greyish white sandy layer (Sterile Layer)	None	N/A	240	> 40

Drawing



South Section

Photographic Record

Overall view of TP1 (view from north to south)

South wall of TP1

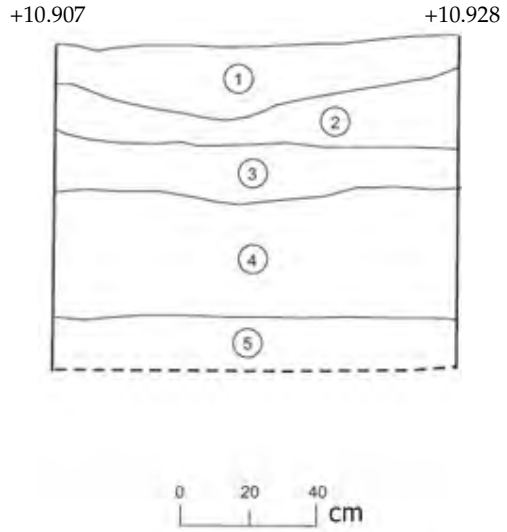
Zoom in view of auger result in TP1

Site Code/ Section	NLMHR2013		Test Pit No.	TP2
Test Pit SE corner Coordinate (E,N)	833756.071	845094.891	Test Pit Measurement (LxW) (m)	1.2x1.2
Digging Method	Hand digging and excavator		Ground Level (mPD)	10.907

Stratigraphy

Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Soft and loose light greyish soil layer containing roots of plantation	None	Modern	0	12-22
2	Hard and firm yellowish sandy alluvium layer	1 blue and white porcelain shard	Not earlier than early 20th Century	12-22	8-24
3	Hard and firm brownish alluvium layer with reddish mottles	None	Earlier than Layer 2	26-36	12-20
4	Hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	N/A	N/A	44 -48	32-40
5	Hard and firm yellowish sandy alluvium layer with reddish mottles (Sterile Layer)	N/A	N/A	81- 87	>18

Drawing



East Section

Photographic Record

Overall view of TP2 (view from northwest to southeast)

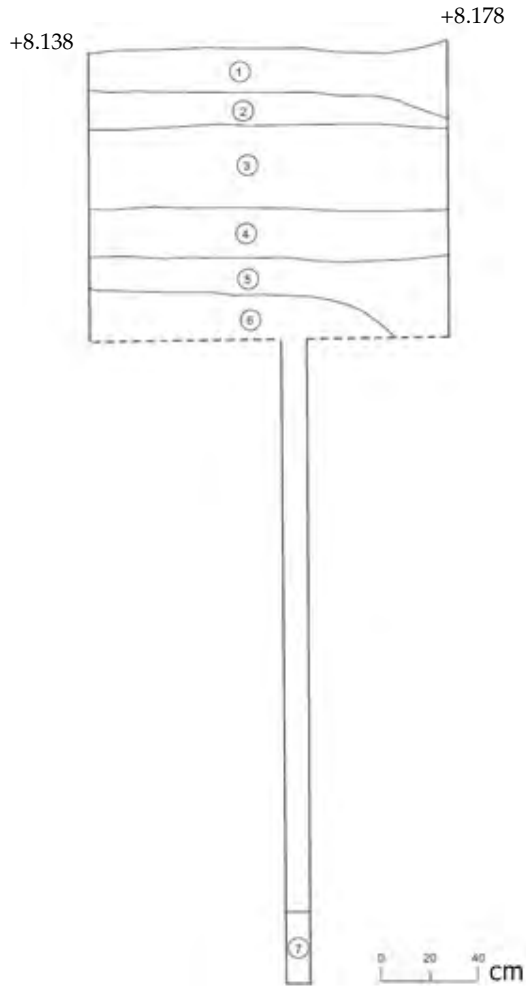
East wall of TP2

Site Code/ Section	NLMHR2013		Test Pit No.	TP3
Test Pit SE corner Coordinate (E,N)	833633.194	844949.573	Test Pit Measurement (LxW) (m)	1.5x1.6
Digging Method	Hand digging and excavator		Ground Level (mPD)	8.178

Stratigraphy Observed on East Wall

Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Soft and loose dark greyish top soil layer containing roots of plantation	None	Modern	0-32	16-32
2	Soft and loose light greyish soil layer containing roots of plantation	None	Modern	16-32	4-16
3	Hard and firm yellowish sandy alluvium layer	1 pottery/ tile shard and 1 Qingbai porcelain shard	Not earlier than 20th Century	32-36	34-36
4	Hard and firm brownish yellow sandy alluvium layer	None	Earlier than Layer 3	44-70	20-22
5	Hard and firm brownish alluvium layer with reddish mottles	None	Earlier than Layer 3	86-90	13->34
6	Hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	N/A	N/A	first found at 80	240
7 (auger hole)	Soft and loose greyish white sandy layer (Sterile Layer)	N/A	N/A	first found at 320	>30

Drawing

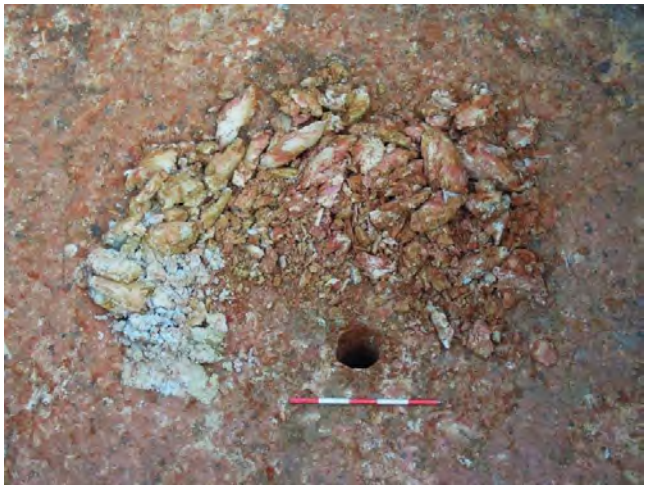


East Section

Photographic Record

Overall view of TP3 (view from south to north)

East wall of TP3



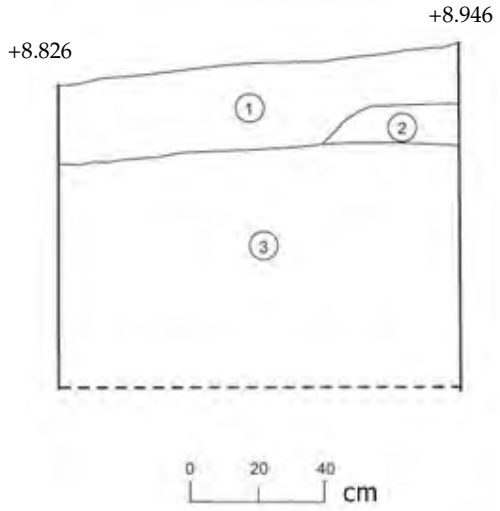
Zoom in view of auger result in TP3

Site Code/ Section	NLMHR2013		Test Pit No.	TP4
Test Pit SE corner Coordinate (E,N)	833600.328	844830.006	Test Pit Measurement (LxW) (m)	1.2x1.2
Digging Method	Hand digging and excavator		Ground Level (mPD)	8.946

Stratigraphy

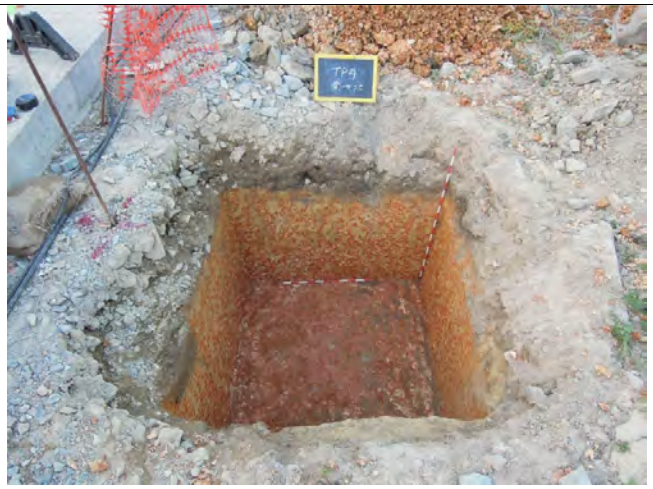
Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Soft and loose dark greyish top soil layer containing roots of plantation	None	Modern	0	18-26
2	A hard and firm yellowish sandy alluvium layer	None	Not earlier than early 20th Century	18-24	0-13
3	A hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	N/A	N/A	first found at 24	>74

Drawing

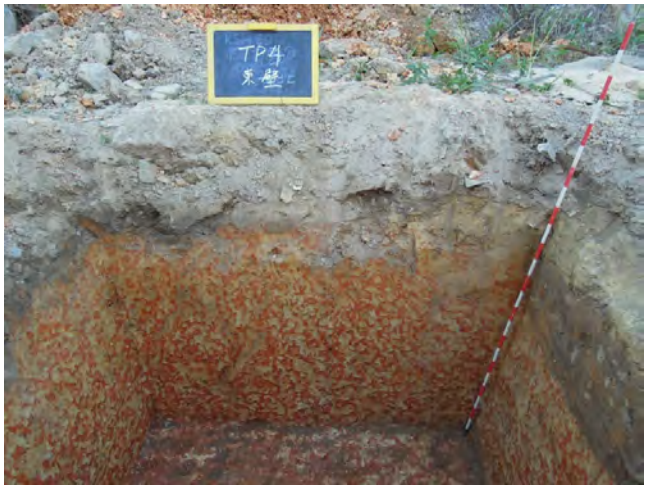


East Section

Photographic Record



Overall view of TP4 (view from south to north)



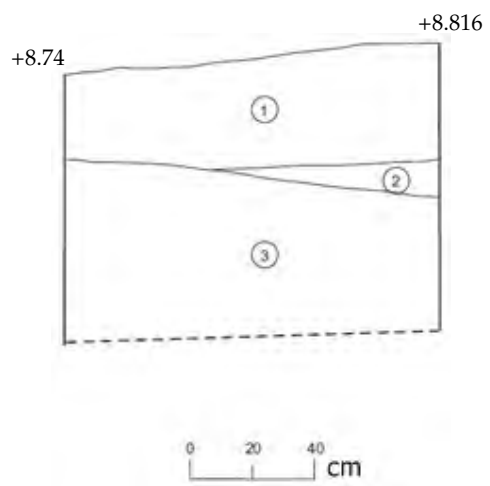
East wall of TP4

Site Code/ Section No.	NLMHR2013		Test Pit No.	TP5
Test Pit SE corner Coordinate (E,N)	833565.125	844757.87	Test Pit Measurement (LxW) (m)	1.4x1.2
Digging Method	Hand digging and excavator		Ground Level (mPD)	8.909

Stratigraphy

Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Fill layer containing large amount of rocks	None	Modern	0	26-38
2	A hard and firm yellowish sandy alluvium layer	None	Not earlier than early 20th Century	34-38	0-12
3	A hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	N/A	N/A	first found at 26	> 60

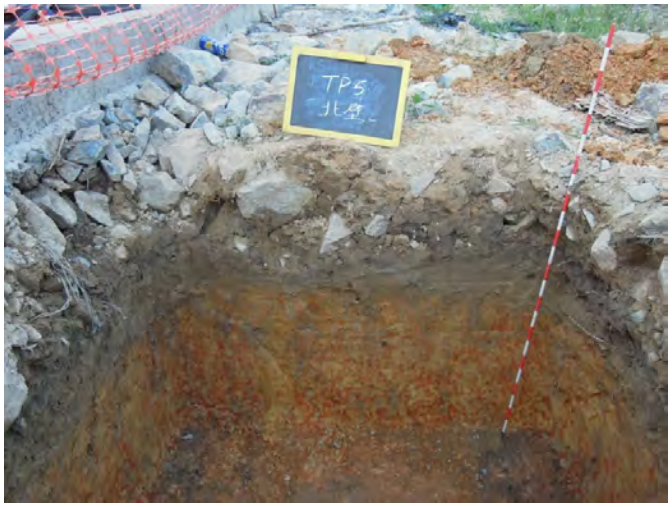
Drawing



North Section

Photographic Record

Overall view of TP5 (view from south to north)



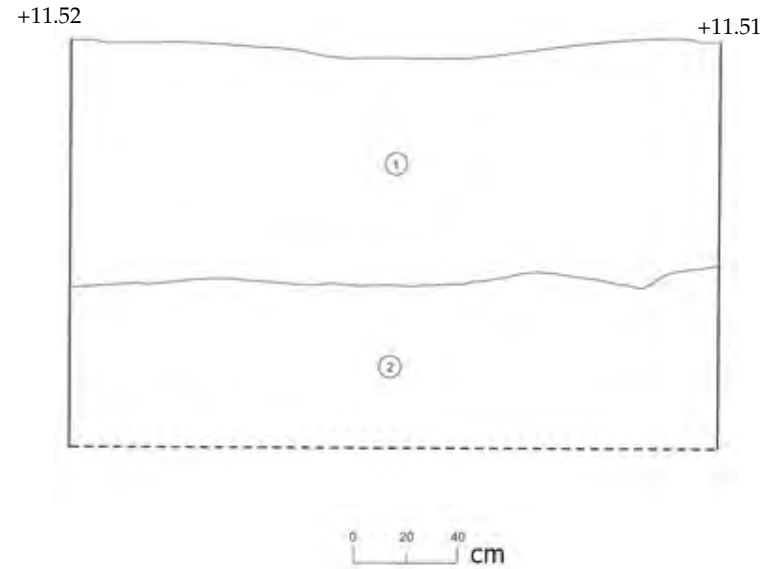
North wall of TP5

Site Code	**NLMHR2013**		**Location No.**	**M2**
SE corner Coordinate (E,N)	833710.854	845143.119	**Location Measurement (LxW) (m)**	4x5
Digging Method	Hand digging and excavator		**Ground Level (mPD)**	11.51

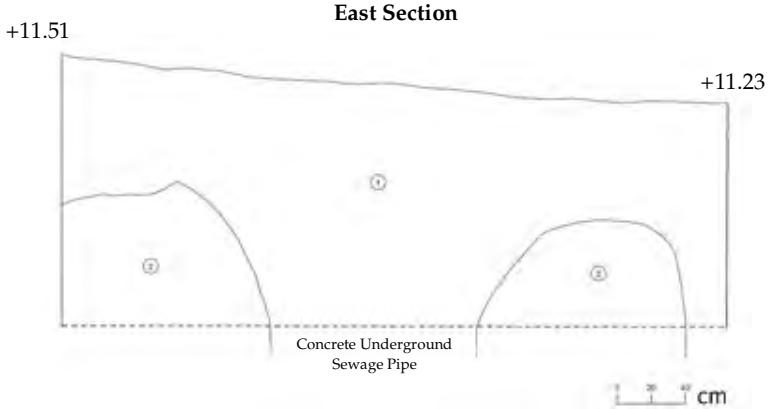
Stratigraphy

Layer	**Description**	**Cultural Remains**	**Archaeological Dating**	**Depth from Ground Level (cm)**	**Thickness (cm)**
1	Fill layer with soft and loose brownish sandy soil and modern garbage	A concrete underground sewage pipe was found under Layer 1 and cut into Layer 2	Modern	0	66-140
2	Hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	N/A	N/A	first found at 66	> 82

Drawing



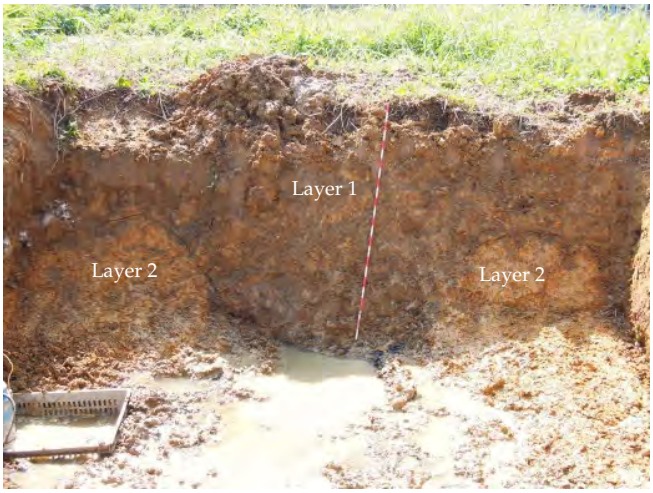
East Section



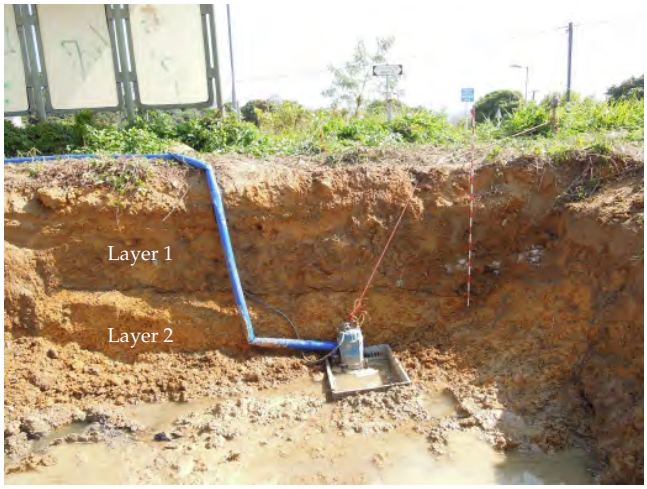
South Section

Photographic Record

Overall view of M2 (view from north to south)



South wall of M2



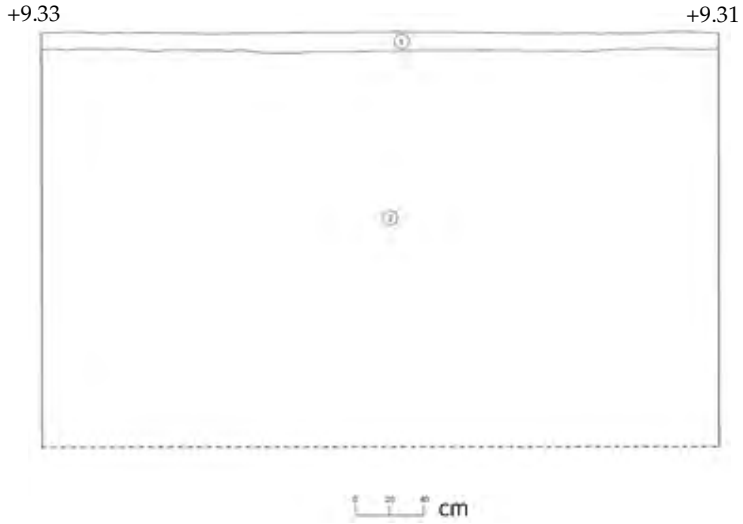
East wall of M2

Site Code/ Section No.	NLMHR2013		Test Pit No.	M3
Test Pit SE corner Coordinate (E,N)	833689.996	845058.152	Test Pit Measurement (LxW) (m)	4x5
Digging Method	Hand digging and excavator		Ground Level (mPD)	9.32

Stratigraphy

Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Soft and loose dark greyish top soil layer containing roots of plantation	None	Modern	0	10
2	Hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	N/A	N/A	10	> 240

Drawing



West Section

Photographic Record

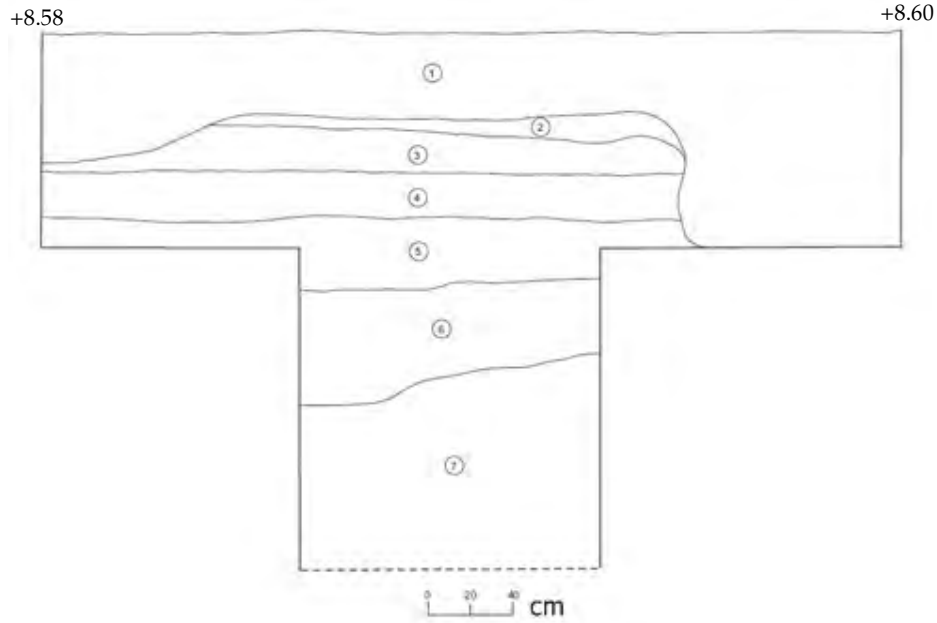
Oblique view of M3 (view from east to west)

Site Code/ Section No.	NLMHR2013		Test Pit No.	M4
Test Pit SE corner Coordinate (E,N)	833663.619	845002.746	Test Pit Measurement (LxW) (m)	4x5
Digging Method	Hand digging and excavator		Ground Level (mPD)	8.56

Stratigraphy

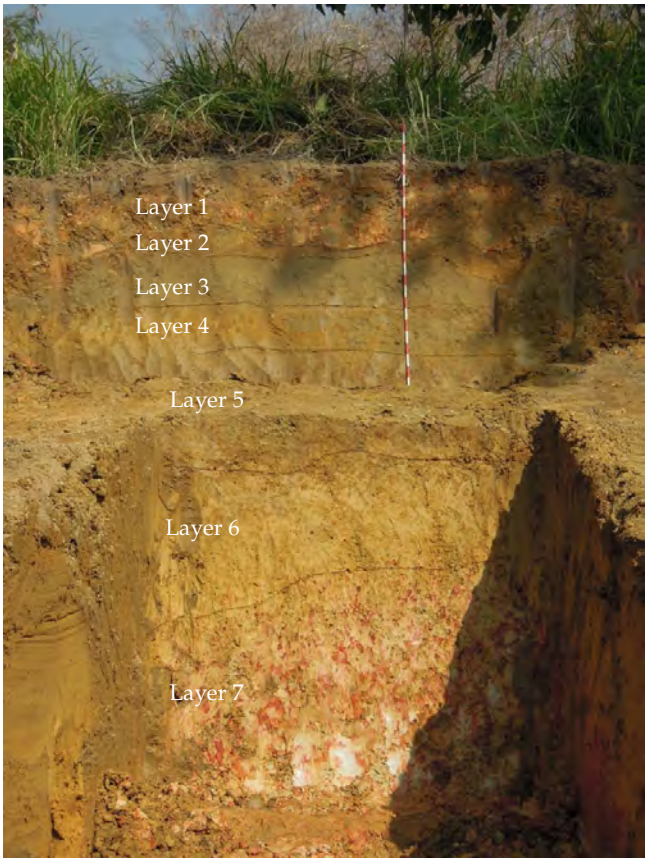
Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Fill layer with reddish sandy alluvium layer with yellowish mottles	None	Modern	0	38-100
2	Soft and loose dark greyish top soil layer containing roots of plantation	None	Modern	38-42	4-14
3	Soft and loose light greyish soil layer containing roots of plantation	None	Modern	44-52	14-20
4	Hard and firm yellowish sandy alluvium layer	None	Not earlier than early 20th Century	64-66	20-24
5	Hard and firm brownish alluvium layer with reddish mottles	None	Earlier than Layer 4	86-88	26-34
6	Soft yellowish silty alluvium layer	None	Earlier than Layer 4	115-120	34-53
7	Hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer)	N/A	N/A	first found at 149	>70

Drawing

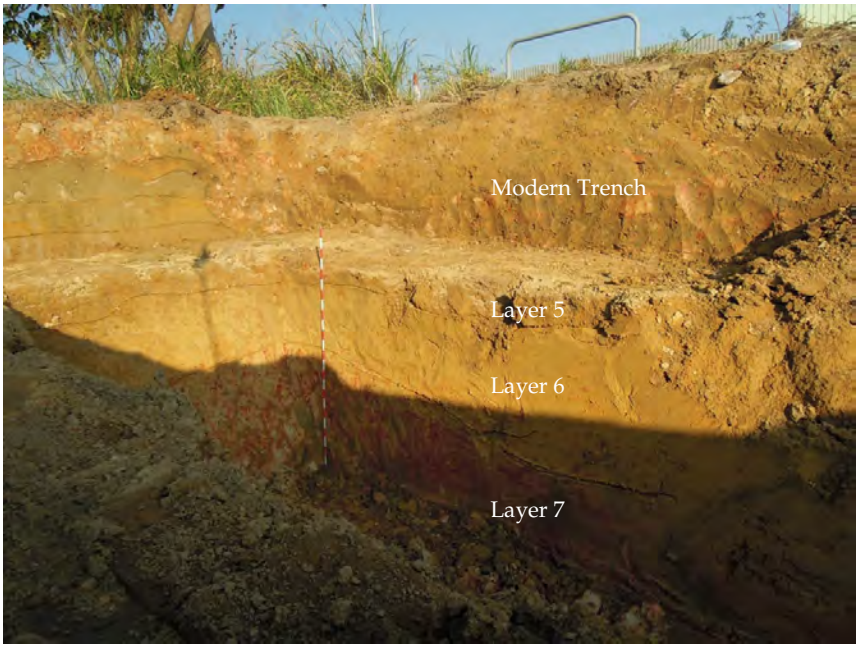


North Section

Photographic Record



North wall of M4



Oblique view of M4 (view from west)

3 AUGER HOLES

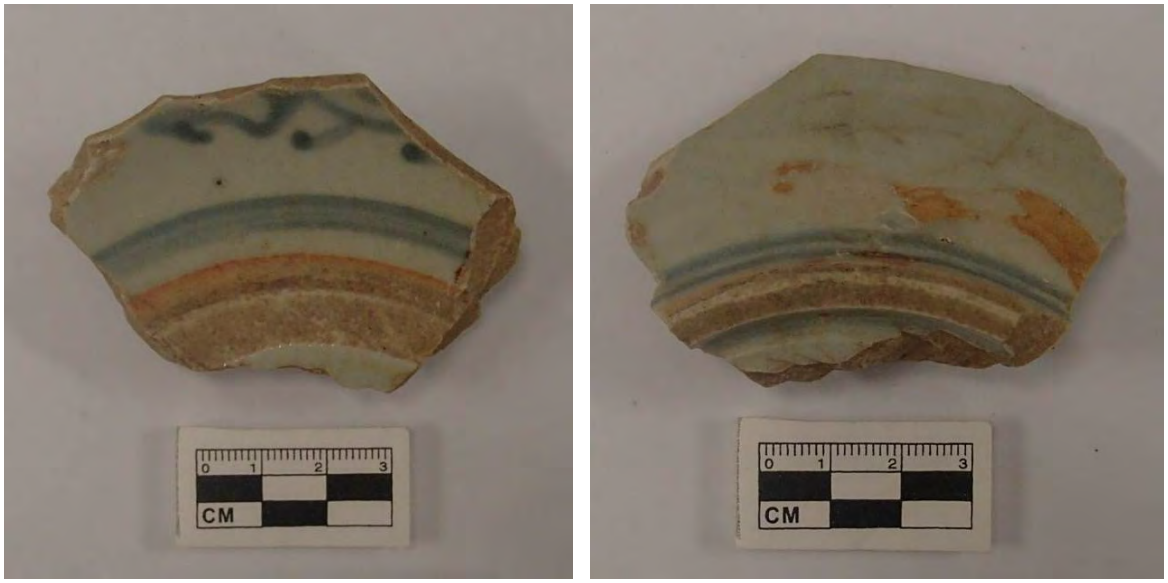
Auger Hole No.	Strata	Depth from Ground Level (cm)	Thickness (cm)	Description
AH1	1a	0	8	Soft and loose dark greyish top soil layer containing roots of plantation
	1b	8	25	Loose and soft greyish sandy soil with yellow and red mottles
	1c	33	>27	Loose greyish soil layer with large amount of asphalt pieces (Large amount of asphalt pieces, thus it prohibited further augering) **Photo**
AH2	1	0	30	A hard and firm yellowish sandy alluvium layer
	2	30	>170	A hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer) *Reached the maximum depth of auger **Photo**

Auger Hole No.	Strata	Depth from Ground Level (cm)	Thickness (cm)	Description
AH3	1	0	16	Soft and loose dark greyish top soil layer containing roots of plantation
	2	16	49	A hard and firm yellowish sandy alluvium layer
	3	65	>155	A hard and firm reddish sandy alluvium layer with yellowish mottles (Sterile Layer) *Reached the maximum depth of auger **Photo**

Annex D

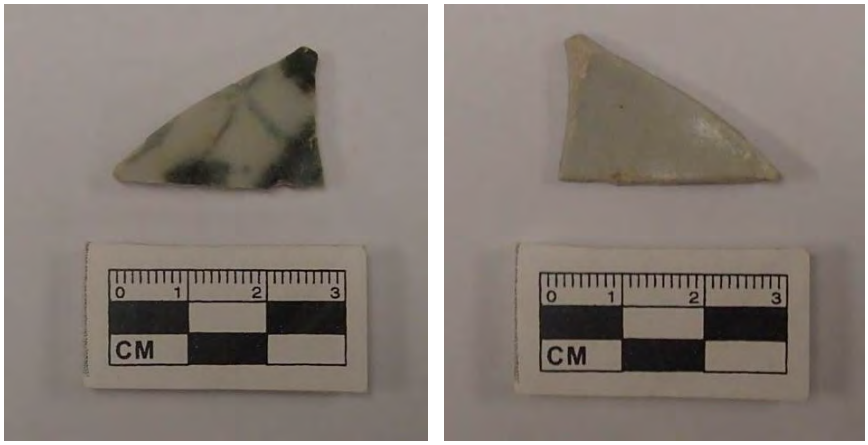
Records of General Artefacts Unearthed

General Finds of TP1



One Blue and White Porcelain Shard Dated to Early 20th Century Found in Layer 2 of TP1
[NLMHR2013 TP1 L2 GF1]

General Finds of TP2



One Blue and White Porcelain Shard Dated to Early 20th Century Found in Layer 2 of TP2
[NLMHR2013 TP2 L2 GF1]

General Finds of TP3

One Pottery/ Tile Shard with Unknown Dating and One *Qingbai* Porcelain Shard Dated to as Early as Yuan Dynasty, Found in Layer 3 of TP3 [NLMHR2013 TP3 L3 GF1]