

Kum Shing (K.F.) Construction Co. Ltd.

Contract DC/2012/09
Pak Hok Lam Trunk Sewer and
Sha Tau Kok Village Sewerage
Archaeological Watching Brief,
Archaeological Survey,
Archaeological Impact Assessment
and Historic Buildings Survey:
Archaeological Survey Report

August 2014

Environmental Resources Management

16/F Berkshire House
25 Westlands Road
Quarry Bay
Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
<http://www.erm.com>

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For and on behalf of ERM-Hong Kong, Limited	
Approved by:	<u>Frank Wan / Zheng Junlei</u>
Signed:	<u> 郑君雷</u>
Position:	<u>Partner / Licence Holder</u>
Date:	<u>5 August 2014</u>

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摘要

作為北區污水收集系統第2階段(餘下工程)及川龍、九華徑舊村及老圍鄉村污水收集系統(合約編號CE 50/2007) (本項目)可行性研究的其中一部份，渠務署進行了一個文化遺產影響評估。

作為文化遺產影響評估的一部份，於2009年準備了一份考古調查報告的最終計劃書(2009考古計劃書)。在本項目的調查階段，又於2010年準備了一份初步環境評審報告(PER)。由於烏石角污水泵房(PS2)在詳細設計階段中改變了位置，在2013年又準備了一份烏石角污水泵房更新初步環境評審報告(PS2的PER)去評估潛在的環境問題和界定本項目所要求的考古調查的範圍，並於同年獲得批准。

2012年，金城營造有限公司(承包商)受渠務署委託去進行白鶴林污水幹渠及沙頭角鄉村污水收集系統(合約編號：DC/2012/09)(本合約)的建築工程作為本項目其中一個工程合約。

香港環境資源管理有限公司受承包商委託為考古顧問，進行本合約內的考古工作；並在2013年4月已經準備好一份考古計劃書(計劃書)並得到古物古蹟辦事處的同意。在2013年6月3日根據《古物及古蹟條例》批出「挖掘及搜尋古物」牌照予鄭君雷博士後於2013年7月30日進行並完成考古調查，工作包括進行田野踏查、鑽探2個鑽探孔及發掘2個探方。

田野踏查範圍內及鑽探孔中均沒有發現具考古價值的遺物，所有探方發掘至生土層或地下水位高度，亦沒有發現任何具考古價值的遺物和考古遺跡。TP2中發現一條水泥批盪的現代農業用水渠，年代約為1950/60年代，此外，在第一層現代填土層和第二層現代棄耕農地分別出土1件陶器碎片和1片瓦片，年代均不早於二十世紀。第二層之下的第三和第四層在屬自然堆積，沒有任何人類活動的跡象。地層結果顯示調查範圍內並沒有早於二十世紀的人類活動，考古潛質及重要性均為很低。

總括而言，由於在調查範圍中只發現到約於二十世紀廢棄的農田，發掘結果亦顯示沒有早於二十世紀的人類活動跡象，因此在調查範圍內存在未經擾亂的早期原生考古遺存的潛質很低，亦即調查範圍內的考古潛質很低，不需要考慮任何考古緩解措施或者進一步的考古行動。

SUMMARY

The Drainage Services Department (DSD) has conducted a cultural heritage impact assessment (CHIA) ⁽¹⁾ as part of the feasibility study of the *North District Sewerage Stage 2 (Remainder) and Sewerage to Chuen Lung, Kau Wa Keng Old Village and Lo Wai – Investigation, Design and Construction (Agreement No. CE 50/2007)* (the Project).

As part of the CHIA, a *Final Proposal for Archaeological Survey Report* was prepared in 2009 (hereafter referred to as the *2009 Archaeological Proposal*). A *Preliminary Environmental Review Report (PER)* was prepared and finalised in 2010 during investigation phase of the Project. As the Wu Shek Kok Sewage Pumping Station (PS2) has been relocated during the detailed design phase, an *Update Preliminary Environmental Review Report for Wu Shek Kok Sewage Pumping Station* (hereafter *PER for PS2*) which assessed the potential environmental impacts associated with the revised scheme and defined the scope of the archaeological survey required for the Project was prepared and approved in 2013.

In 2012, Kum Shing (K.F.) Construction Co. Ltd. (the Contractor) has been commissioned by the DSD to carry out the construction of the Pak Hok Lam Trunk Sewer and Sha Tau Kok Village Sewerage system under *Contract No. DC/2012/09* (the Contract) as one of the Works contracts for the Project.

ERM-Hong Kong, Limited (ERM) has been commissioned by the Contractor as the archaeological consultant to implement the archaeological works under the Contract. An *Archaeological Proposal (the Proposal)* to obtain field data for the Archaeological Impact Assessment of the revised PS2 location was prepared in April 2013 and agreed with the Antiquities and Monuments Office (AMO). A *Licence to Excavate and Search for Antiquities* under the *Antiquities and Monuments Ordinance* was then granted to Dr Zheng Junlei by the Authority on 3 June 2013 and the Survey was conducted and completed on 30 July 2013. Field scanning, two (2) auger holes and two (2) test pits were conducted.

No remains of archaeological significance were identified from field scan and auger holes. All the test pits were excavated to sterile layer or reached underground water level and no remains of archaeological significance were identified. A modern concrete-surfaced drain for agricultural use dated to the 1950s/60s was identified in TP2. A total of two (2) pieces of general finds were identified from TP2, including a pottery shard from the fill layer (Layer 1) and a tile fragment from the abandoned agricultural fields (Layer 2). Both of them were dated to 20th Century to modern period. Layers 3 and 4 were found immediately beneath Layer 2 and they are considered natural deposits and demonstrate no traces of human activities. The general stratigraphy suggests no trace of early human activities before the 20th century within the

(1) As part of the Preliminary Environmental Review.

Study Area. The archaeological potential and significance of the Study Area are therefore considered very low.

In summary, as only abandoned agricultural fields approximately in the 20th century were found within the Study Area and the findings suggests no traces of human activities before the modern period as early as the 20th century, the potential to identify early period *in situ* archaeological deposits within the Study Area is very low. Therefore, the surveyed area is concluded to have very low archaeological potential. Archaeological mitigation measure or further archaeological work is considered not necessary.

The Drainage Services Department (DSD) has conducted a cultural heritage impact assessment (CHIA) ⁽¹⁾ as part of the feasibility study of the *North District Sewerage Stage 2 (Remainder) and Sewerage to Chuen Lung, Kau Wa Keng Old Village and Lo Wai – Investigation, Design and Construction (Agreement No. CE 50/2007) (the Project)*.

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In 2012, Kum Shing (K.F.) Construction Co. Ltd (the Contractor) has been commissioned by the DSD to carry out the construction of the Pak Hok Lam Trunk Sewer and Sha Tau Kok Village Sewerage system under *Contract No. DC/2012/09* (the Contract) as one of the Works contracts for the Project.

ERM-Hong Kong, Limited (ERM) has been commissioned by the Contractor as the archaeological consultant to implement the archaeological works under the Contract.

In accordance to *Clauses 32.03 (1) and 32.06(1) of Section 32 of the Particular Specification (PS) of the Contract*, an *Archaeological Proposal* (the *Proposal*) detailing the proposed archaeological survey works was prepared by ERM in April 2013 and agreed with the Antiquities and Monuments Office (AMO) prior to commencement of the archaeological survey.

A *Licence to Excavate and Search for Antiquities* under the *Antiquities and Monuments Ordinance* was granted to Dr Zheng Junlei by the Authority on 3 June 2013 before the commencement of the archaeological survey described in the *Proposal*.

The archaeological survey, including field scanning, drilling of two (2) auger holes and excavation of two (2) test pits was conducted and completed on 30 July 2013. This *Archaeological Survey Report* (the *Report*) presents the findings of the archaeological survey, an archaeological impact assessment of the construction works under the Contract and the recommended mitigation measures (if required).

(1) As part of the Preliminary Environmental Review.

1.2

EXCAVATION TEAM MEMBERS

The individuals participated in the field survey were as follows:

Dr Zheng Junlei	Licenced Archaeologist
Ms Peggy Wong	Experienced Archaeologist
Mr William Sin	Assistant Archaeologist

In addition to the above team members, four laborers were employed to assist the excavation. Setting out of the test pits locations was undertaken by a qualified land surveyor from the Contractor.

The post-excavation finds processing and interpretation of data retrieved from the archaeological survey were led by Dr Zheng Junlei, who was supported by Ms Peggy Wong and Mr William Sin. Photography of the artifacts recovered was undertaken by Mr William Sin.

Authors of this *Report* include Dr Zheng Junlei, Ms Peggy Wong, Ms Kitty Liu and Mr William Sin.

1.3

DESCRIPTION OF WORKS

Based on the latest design alignment of the proposed sewerage improvement works provided by the Contractor, a layout plan showing the revised PS2 scheme (the Works Area and other associated construction works, such as the proposed rising main and sewer which involving excavation works) is presented in *Figure 1.1*. The general construction methods are presented in *Table 1.1*.

Table 1.1 *Construction Methods for the Proposed Sewerage Improvement Works*

Location	Types of Construction Works	Construction method
PS2	Construction of the Pumping Station PS2 (a single-storey building with approx. 370 m ² Gross Floor Area and a height less than 5m (from ground to roof level)). An inlet chamber, pump well and valve chamber will be located underground and it will be enclosed by a boundary wall or fencing.	<ul style="list-style-type: none"> Method of excavation: Excavation by a 15T (minimum) backhoe down to 10m below existing ground level; Piling: 250mm diameter mini-piles will be used
	Construction of proposed rising main and sewer	<ul style="list-style-type: none"> Construction works (open cut) along Sha Tau Kok Road (about 1 m depth and 1 m width) Construction works (trenchless method) along footpath (about 2 m depth and 0.5 m width)



Figure 1.1
Superficial Deposits at Wu Shek Kok Sewage Pumping Station

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

- Section 2* presents the background of the Study Area;
- Section 3* presents the objectives and methodology for the archeological survey;
- Section 4* presents the findings of the archaeological survey;
- Section 5* presents the findings of the archaeological impact assessment, recommended mitigation measures (if required) and conclusions of the archaeological survey; and
- Section 6* presents the bibliography.

The following annexes are also included:

- Annex A Auger Hole Records*
- Annex B Test Pit Records*
- Annex C List and Photographic Record of General Finds*
- Annex D Land Survey Record*

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2.1 TOPOGRAPHIC AND GEOLOGICAL BACKGROUND

Topographic descriptions and superficial deposits at the revised PS2 location is shown in *Table 2.1* and presented in *Figure 1.1*.

Table 2.1 Topography and Superficial Deposit

Study Area	Topography	Superficial Deposits
Wu Shek Kok Sewage Pumping Station (PS2)	Proposed station - located on a slope next to the Sha Tau Kok Road – Shek Chung Au (沙頭角公路 - 石涌凹段).	Debris flow deposits and Terraced alluvium
	Proposed sewer and rising main - located along the Sha Tau Kok Road – Shek Chung Au and on a slope next to road.	Debris flow deposits, Terraced alluvium and Alluvium

2.2 HISTORICAL BACKGROUND

The Study Area of the revised PS2 location is located in close vicinity of the Sha Tau Kok Road and the historical Wu Shek Kok village (烏石角). The excavation works for the associated works including the proposed rising main and sewer will be carried out along the Sha Tau Kok Road.

Wu Shek Kok and other historical villages in the adjacent areas such as Yim Tso Ha (鹽灶下) and San Tsuen (新村), were shown on the following historical maps. San Tsuen was even recorded in the *Xin'an Gazetteer* (新安縣志) dated to 1688 ⁽¹⁾. These indicate that the villages were established no later than Qing Dynasty (AD 1644 to AD 1911).

- The *Map of Sun-On-District* in 1897 (1897 map) (see *Figure 2.1*) ⁽²⁾;
- *Map of the Colony of Hong Kong including New Territories of 1903-04* (1903-04 Map) (see *Figure 2.2*) ⁽³⁾;
- *Map of the Colony of Hong Kong including New Territories of 1913* (1913 Map) (see *Figure 2.3*) ⁽⁴⁾.

The PS2 is located at the north of Sha Tau Kok Road, which has a long history for connecting the historical villages at the Sha Tau Kok area. Sha Tau Kok Road has been recorded on a historic map dated to 1898 (see *Figure 2.4*) ⁽⁵⁾.

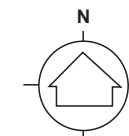
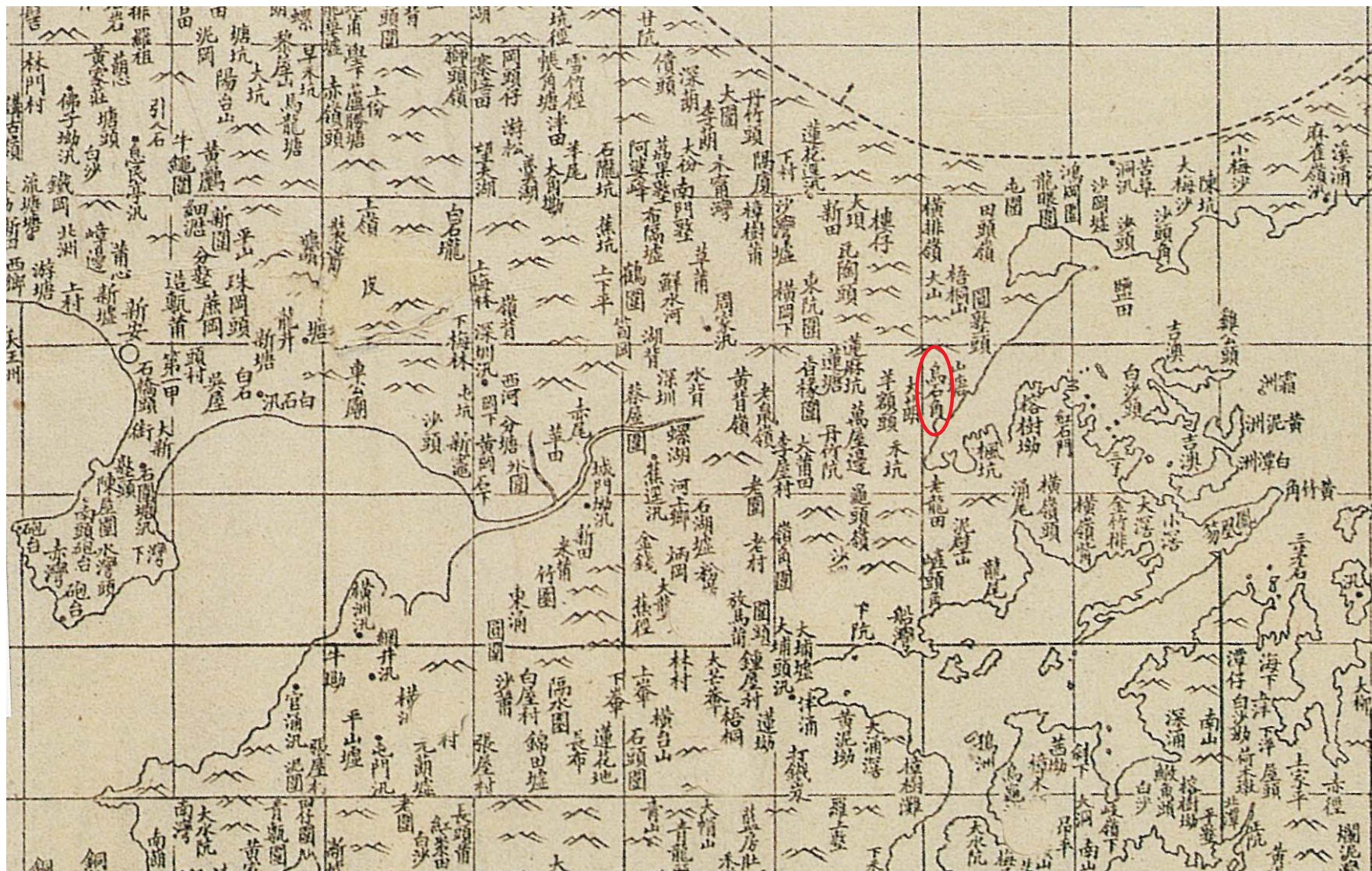
(1) 新安縣志 (清) 1688

(2) Map of Sun-On-District (1897) from 廣東通志館 (1934), 《廣東通志》, 上海: 商務。

(3) Map of the Colony of Hong Kong including New Territories of 1903-04

(4) Map of the Colony of Hong Kong including New Territories of 1913

(5) Lands Department, 1898 Map of Hong Kong and Kowloon (1898). Map of Hong Kong and of the Territory Leased to Great Britain Under the Convention Between Great Britain and China Signed at Peking on the 9th of June 1898.

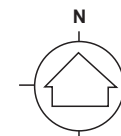
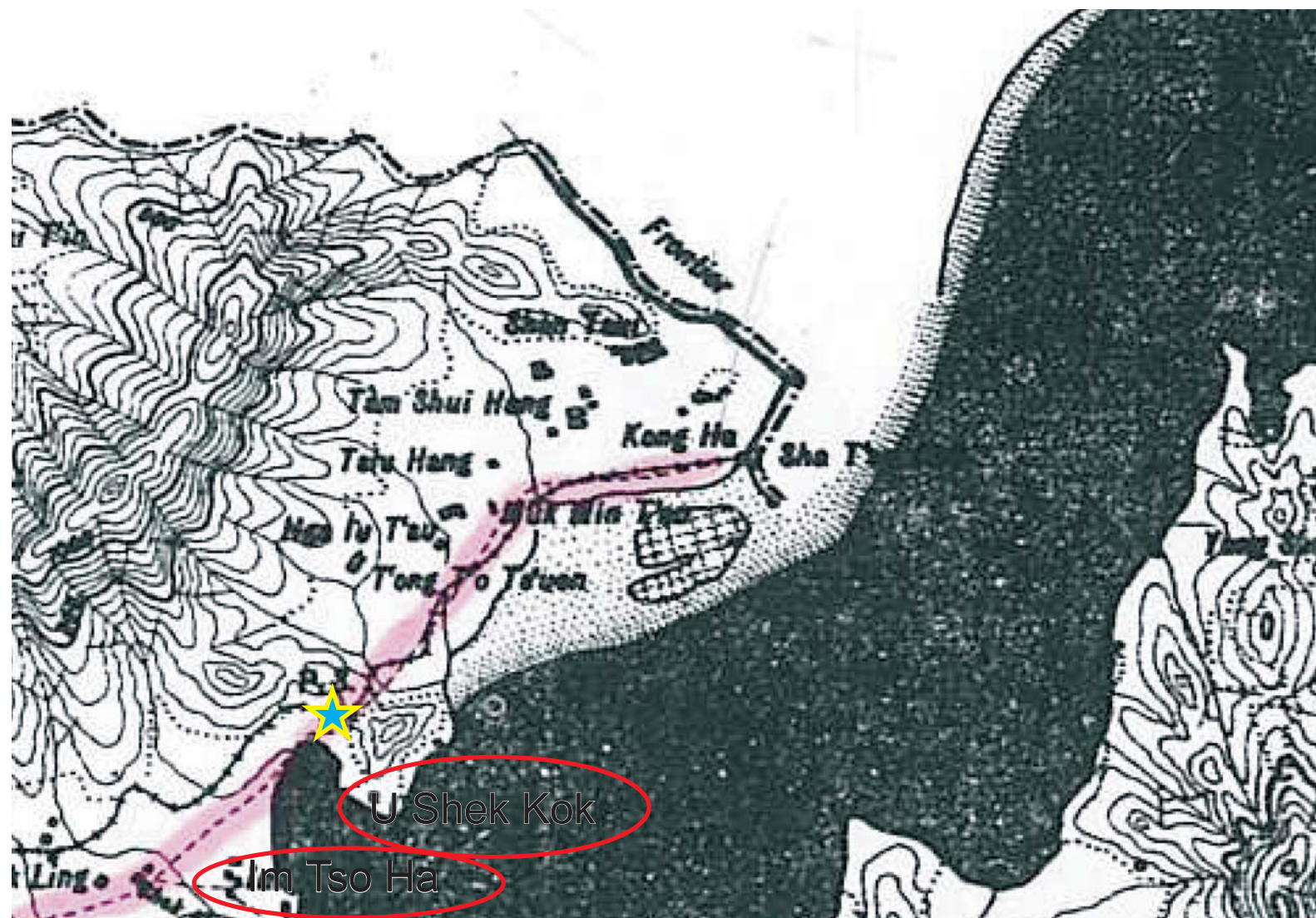


Key
 Historical village in vicinity

Figure 2.1


Map of 1897 Showing Historical Village in Vicinity

(Source: Map of the Sun-On-District from Kwang Tung Directory (<<廣東通志>>))



Key

 Historical villages in vicinity

 Sha Tau Kok Road
(Historical route)


 Indicative location of
Study Area

Figure 2.2

Map of 1903-1904 Showing Historical Villages and Historical Route in Vicinity
(Source: Map of the Colony of Hong Kong Including New Territories)

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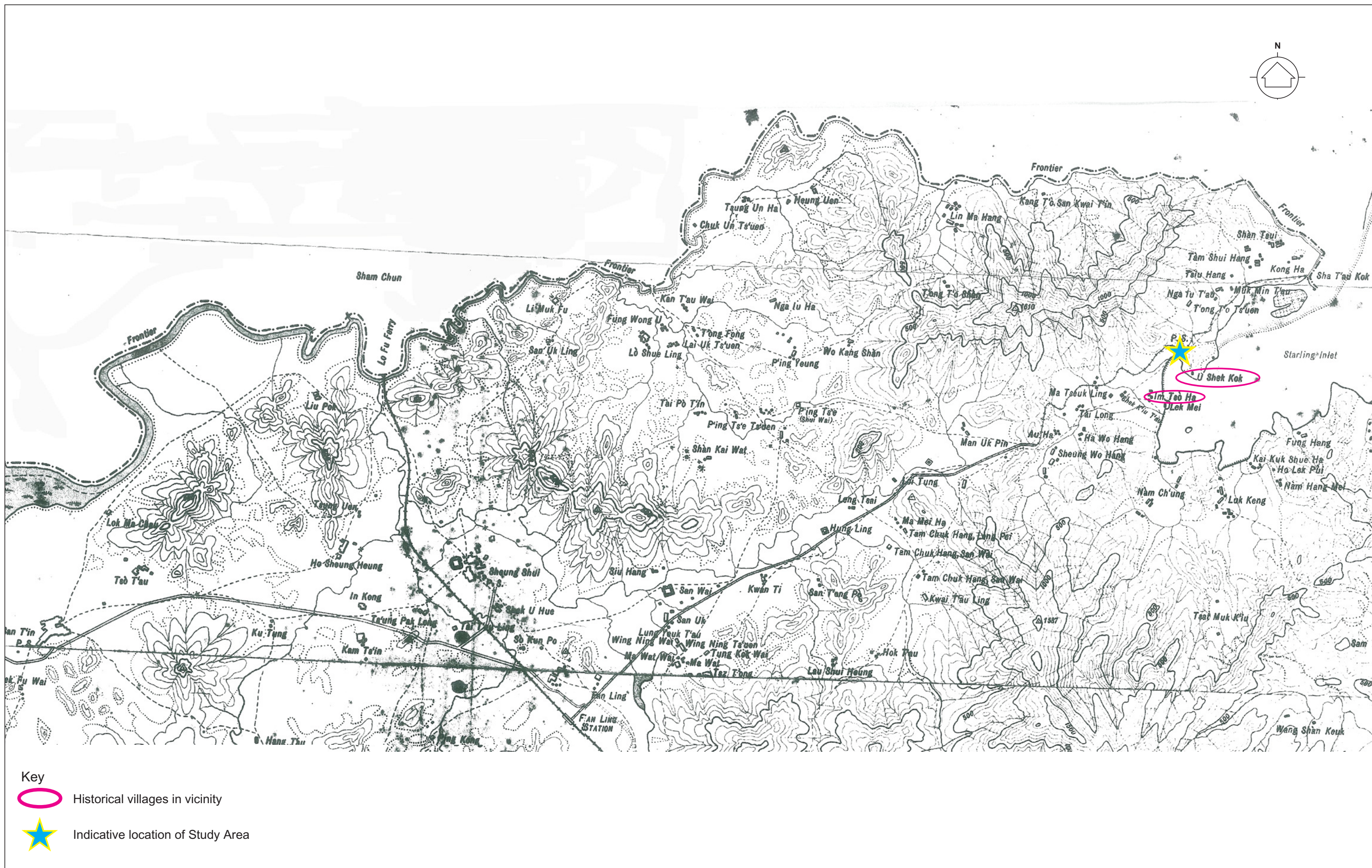


Figure 2.3

Map of 1913 Showing Historical Villages in Vicinity

(Source: Map of the Colony of Hong Kong Including New Territories)



Key

— Sha Tau Kok Road

Figure 2.4

Map of 1898 Showing Sha Tau Kok Road

(Source: Lands Department. 1898 Map of Hong Kong and Kowloon (1898))

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According to an interview with the locals ⁽¹⁾, the Study Area of the revised PS2 location was used as agricultural field in 1950s/60s.

2.3 ARCHAEOLOGICAL BACKGROUND

No site of archaeological interest is identified within the revised PS2 location ⁽²⁾.

However, the shortest distance between the revised PS2 location and Sha Tau Kok Shek Kiu Tau Site of Archaeological Interest is about 126m; and Sha Tau Kok San Tsuen Site of Archaeological Interest is about 556m. Descriptions of the two sites of archaeological interest are presented in *Table 2.2*.

Table 2.2 *Descriptions of the Two Sites of Archaeological Interest*

Site of Archaeological Interest	Description
Sha Tau Kok Shek Kiu Tau	The site was first recorded during the Second Territory-wide Archaeological Survey. Surface finds of net pattern pottery sherds were collected in low-lying fields at Shek Kiu Tau. However, no finds were identified in the auger hole tests conducted at Wo Hang Tai Long ⁽³⁾ . Two field investigations were conducted in 2000. The first investigation (two auger holes and two test pits) discovered prehistoric cultural remains and ceramic sherds of Song and Ming periods. It was suggested that the site was a possible prehistoric hill-slope site ⁽⁴⁾ . The second investigation (two test pits) revealed similar stratigraphy to that of the First Re-investigation, with the discovery of four sherds of Song Dynasty Longquan celadon, two sherds of Ming Dynasty pottery and eight sherds of Ming Dynasty glazed pottery and cloth-pattern tile fragments ⁽⁵⁾ .
Sha Tau Kok San Tsuen	The site was first identified during the Second Territory-wide Archeological Survey, with the discovery of Qing Dynasty materials ⁽⁶⁾ . Field investigations in 2000 revealed that the site contained rich prehistoric cultural deposits including Warring States hard pottery sherds and Late Neolithic stone implements ⁽⁷⁾ . An archeological excavation was conducted in the centre of this archaeological site in 2001 prior to the construction of a small village house. Four cultural layers (Early Neolithic, Mid Neolithic, Late Neolithic and Bronze Age), as well as a large number of stone artifacts, and some features including 3 postholes, 2 pits and traces of stone working areas were identified ⁽⁸⁾ .

(1) Mr Sin who lived in the area during the 1960s.

(2) 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>.

(3) Shenzhen Museum (1998), *Second Territory-wide Archaeological Survey* (Unpublished, accessible at Heritage Discovery Centre Library, No:ND1)

(4) 古物古蹟辦事處 (2000), 《新界大埔、沙頭角地區考古覆查工作報告》(未出版, 現藏香港文物探知館參考圖書館, 索書號: ID16)。

(5) 古物古蹟辦事處 (2000), 《新界大埔、元朗、沙頭角地區第二次考古覆查工作報告》(未出版, 現藏香港文物探知館參考圖書館, 索書號: ID2)。

(6) Shenzhen Museum (1998), *Second Territory-wide Archaeological Survey* (Unpublished, accessible at Heritage Discovery Centre Library, No:ND1)

(7) 古物古蹟辦事處 (2000), 《新界餘下偏僻村落供水計劃第二期考古調查工作報告》(未出版, 現藏香港文物探知館參考圖書館, 索書號: ND3)。

(8) 莫稚 (2002), <沙頭角新村遺址發掘報告>, 《香港考古學會會刊》第十五卷。

3.1 OBJECTIVES

A desktop study which evaluate the available baseline information of the Study Area of PS2 and the nature of the construction works described in the *PER for PS2*.

In the *PER for PS2*, it is considered that PS2 location shares similar geological features as Sha Tau Kok Shek Kiu Tau Site of Archaeological Interest, which is in close vicinity. Potential archaeological deposits could make reference to findings of Sha Tau Kok Shek Kiu Tau Site of Archaeological Interest (refer to *Table 2.2*).

In addition to PS2 locating about +3.7 to +5 mPD which favours human activities; locating in vicinity to historical route and historical village of Wu Shek Kok; and also no previous ground disturbance has been recorded, PS2 considered to have some archaeological potential.

As the area required excavation at PS2 will be in the depth of up to 10m, potential impact on archaeological resources is anticipated. Since no archaeological field survey has been conducted in this area to obtain field data to verify its archaeological potential, the objective of this Survey is to fill the data gaps identified in the desktop study for the archaeological impact assessment (AIA) of the revised PS2 location.

3.2 SCOPE

According to the AIA conducted for the *PER for PS2*, a river runs at the western part of the site and a cut slope is located at the eastern to south-eastern part of the site. Having evaluated the available baseline information of the Study Area of the revised PS2 location and the nature of the construction works described in the *PER for PS2*, the following scope of archaeological survey is proposed to obtain necessary data for AIA:

- to excavate two (2) test pits with the size of 1m x 1.5m; and
- to drill two (2) auger holes.

The locations of the auger holes and test pits ⁽¹⁾ conducted are shown in *Figure 3.1*.

3.3 METHODOLOGY

The methodology employed to satisfy the above objectives is described below.

(1) The location of AH2 and TP2 were swopped to suit waterlogged condition of the site.

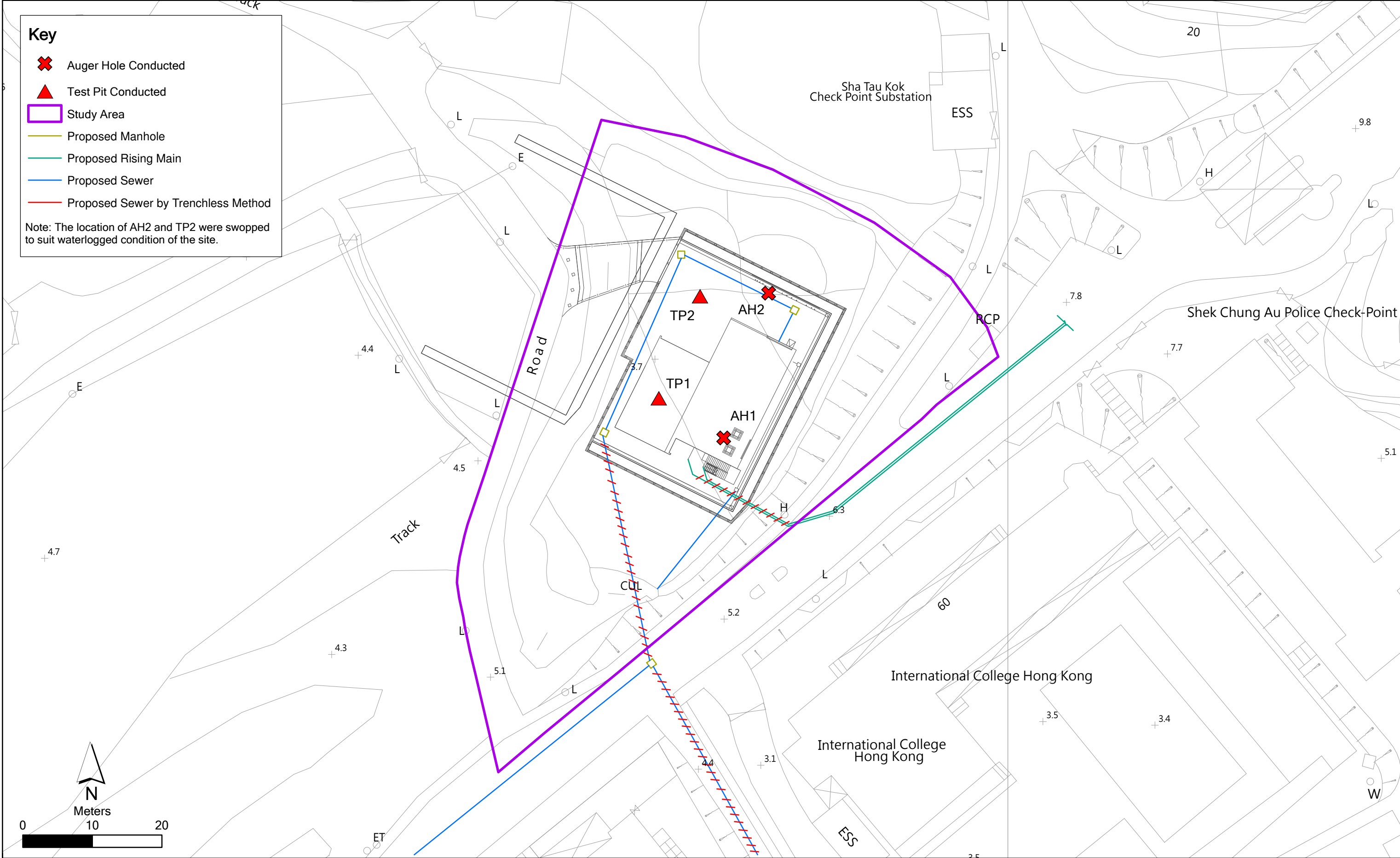


Figure 3.1

Locations of Auger Holes and Test Pits Conducted at Wu Shek Kok Sewage Pumping Station

3.3.1

Task 1 - Desktop Research

A desktop study was undertaken to collate available information in order to establish the baseline conditions of the Study Area as presented in *Section 2* above. Information gathered was obtained from the reference library of the AMO, Lands Department, tertiary institutions and public libraries.

Geological and archaeological information of the Study Area was reviewed including literature, graphical materials and aerial photographs. A full bibliography is presented in *Section 6*.

3.3.2

Task 2 - Field Survey

The archaeological survey was led by a licenced archaeologist and the fieldwork comprises the following tasks:

Task 2a: Field Scan

Field scan of the Study Area of PS2 was conducted. No remains of archaeological interest are identified.

Task 2b: Excavation (Auger Survey and Test Pitting)

A total of two (2) test pits with a size of 1m x 1.5m and two (2) auger holes were conducted to assemble field data to verify the archaeological potential of the revised PS2 location and their locations are presented in *Figure 3.1*. The test pits were excavated by hand under the supervision of ERM archaeological team which was led by a licenced archaeologist. The excavation of the test pit was terminated when reaching the sterile layer or the groundwater level (1m and 1.1m below ground level for TP1 and TP2, respectively) where the effects of groundwater prevent further excavation despite the use of appropriate and practical dewatering measures and it is consider unsafe to excavate further down. When site condition allowed and necessary, an auger hole was drilled at the bottom of each test pit in order to obtain further soil profile data. The field data collected should be able to determine the archaeological potential of the impacted area within the Study Area.

Daily field works records were prepared which include the following information:

- A schedule detailing the field works completed during each day;
- A report on the resources and equipment deployed on site;
- A report on artifacts and archaeological features discovered and the method of treatment and conservation; and
- Weather conditions.

The archaeological team has recorded the field archives during the course of the field works. The field archives were handled with reference to the *Guidelines for Handling of Archaeological Finds and Archives* (as at November 2011).

The levels of the excavated test pits were surveyed and certified by a land surveyor (see *Annex D* for details).

Task 2c: Relics and Archives Processing and Recording

All unearthed archaeological remains were collected, recorded, dated and sorted, and representative archaeological remains will be photographed and/or drawn. All photographs taken were in color with the date, time, crew identification contained and a minimum of 4 Mega pixels in resolution in JPEG format. The relics and field records were processed and analysed in accordance with AMO's *Guidelines for Handling of Archaeological Finds and Archives* (as at November 2011).

According to *Section 10* of *AM Ordinance*, the ownership of the archaeological relics identified vest in the Hong Kong SAR Government. Upon acceptance of the finalised survey report by AMO, the finds, artifacts and archives arising from the survey will be handed over to AMO in accordance with the conditions of the licence under the *AM Ordinance*.

3.3.3 *Recording System*

The site code of this Survey was designated by AMO as NWSK2013, representing "Archaeological Survey at Wu Shek Kok for Construction of a Sewage Pumping Station for Pak Hok Lam Trunk Sewer and Sha Tau Kok Village Sewerage" and the proposed commencement year of the excavation fieldwork. The site code was marked on archives, labels and finds to indicate under which project they have been established and retrieved.

The field excavation recording procedures were carried out in accordance with relevant AMO's guidelines or common archaeological fieldwork practices.

Two to three sections of each test pit were drawn and all sections of each test pit were photographed. Stratigraphy of each test pit was recorded on the test pit-recording forms. All finds were carefully bagged, labeled and registered on site. All finds were given an archaeological dating (relative dating) and a selection of the finds was photographed. These are presented in *Section 4* and *Annex C* of this *Report*.

3.3.4 *Health and Safety Requirements*

All relevant health and safety legislation, regulations and codes of practice were fully complied with. All archaeologists and workers had attended safety briefings on site conducted by ERM. All staffs were provided with appropriate Personal Protective Equipment (PPE) and all safety procedures and measures were followed.

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4 FINDINGS OF THE SURVEY

4.1 INTRODUCTION

Field scan at accessible area and a total of two (2) test pits and two (2) auger holes were conducted. The key findings are summarised below.

4.2 FIELD SCAN

Field scan of the Study Area of the revised PS2 location was conducted. No remains of archaeological significance are identified.

4.3 AUGERING AND TEST PITTING

A total of two (2) test pits and two (2) auger holes were conducted. No remains of archaeological significance were identified at all locations. A summary of findings is presented below and detailed auger holes and test pits records are presented in *Annexes A and B*, respectively.

4.3.1 General Stratigraphy

Test pitting and augering revealed that general stratigraphy is consistent within the Study Area.

General stratigraphy of the Study Area consists of a surface layer, two intermediate layers of sandy soil layer and a sterile layer. The surface layer (Layer 1/L1) consists of loose dark brown fill soil with lots of plantation roots. The first sandy soil layer (Layer 2/L2) in general consists of loose and coarse greyish yellow sandy soil. The second sandy soil layer (Layer 3/L3) in general consists of loose greenish grey sandy soil with some very small stone pieces included in the bottom part of the layer. The sterile layer (Layer 4/L4) consists of compacted yellowish sandy soil.

All these four layers were found in all test pits and auger holes conducted under this Survey. Traces of previous agricultural activities (i.e. concrete-surfaced drain) were identified under L1 and cut into L2 of TP2. It is therefore believed that L1 and L2 are the fill layer and the abandoned agricultural fields respectively.

L3 is probably resulted from deposition of a long-time waterlogged condition. The sterile layer of L4 was found immediately beneath L3. The yellowish sandy soil with some reddish and white soil included indicates the layer is formed by the weathered bedrock. These two layers are natural deposits and demonstrate no traces of human activities.

4.3.2

Unearthed Archaeological Remains / Artifacts

No remains of archaeological interest identified from field scan and augering.

Only two (2) pieces of general finds were identified from TP2, including a pottery shard from the fill layer (Layer 1) and a tile fragment from the abandoned agricultural fields (Layer 2). Both of them were dated to 20th Century to modern period. No find was identified from TP1. The list of general finds and their photographs are shown in *Annex C*.

A concrete-surfaced drain (see *Figure 4.1*) was identified under L1 and cut into L2 of TP2. It is believed that it was the remains of the agricultural activities of the site back in the 1950s/60s and was abandoned when there were no longer any agricultural activities within the Study Area.



Figure 4.1 Concrete-surfaced Drain in TP2

This AIA has taken account the findings of a desktop review (which has reviewed the findings of the *PER for PS2*, and available baseline information of the Study Area of the revised PS2 location) and the nature of the construction works described in the *PER for PS2*, and the findings of the Survey undertaken in this assignment.

After a *Licence to Excavate and Search for Antiquities* under the *Antiquities and Monuments Ordinance* was granted to Dr Zheng Junlei by the Authority on 3 June 2013, the Survey was conducted and completed on 30 July 2013. Field scanning, two (2) auger holes and two (2) test pits were conducted.

No remains of archaeological significance were identified from field scan and auger holes. All the test pits were excavated to sterile layer or reached underground water level and no remains of archaeological significance were identified. A modern concrete-surfaced drain for agricultural use dated to the 1950s/60s was identified in TP2. A total of two (2) pieces of general finds were identified from TP2, including a pottery shard from the fill layer (Layer 1) and a tile fragment from the abandoned agricultural fields (Layer 2). Both of them were dated to 20th Century to modern period. L3 and L4 were found immediately beneath L2 and they are considered natural deposits and demonstrate no traces of human activities. The general stratigraphy suggests no trace of early human activities before the 20th century. Both the archaeological potential and significance are therefore considered very low.

In summary, as only abandoned agricultural fields approximately in the 20th century were found within the Study Area and the findings suggests no traces of human activities before the modern period as early as the 20th century, the potential to identify early period *in situ* archaeological deposits within the Study Area is very low. Therefore, the surveyed area is concluded to have very low archaeological potential. Archaeological mitigation measure or further archaeological work is considered not necessary.

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新安縣誌 (清) 1688

Annex A

Auger Holes Records

Detailed Record of Auger Holes Conducted

Auger Hole No.	Strata	Depth (cm) (a)	Thickness (cm)	Description
AH1	1	0	10	Dark brown clayish soil with lots of plantation roots
	2	10	68	Sticky greyish yellow sandy soil
	3a	78	32	Compact greenish grey sandy soil
	3b	110	30	Compact and coarse greenish grey sandy soil
	4	140	>80	Sticky and loose greyish sandy soil with yellowish sandy soil included.
AH2	1	0	10	Dark brown clayish soil with lots of plantation roots
	2	10	40	Sticky greyish yellow sandy soil
	3a	50	23	Sticky, compact and coarse greyish sandy soil
	3b	73	27	Loose greyish sandy soil
	3c	100	50	Loose Greyish white sandy soil
	4	150	>20	Yellowish sandy soil with some reddish and white soil included
Note: (a) Depth measure from the ground level to the surface of the stratum.				

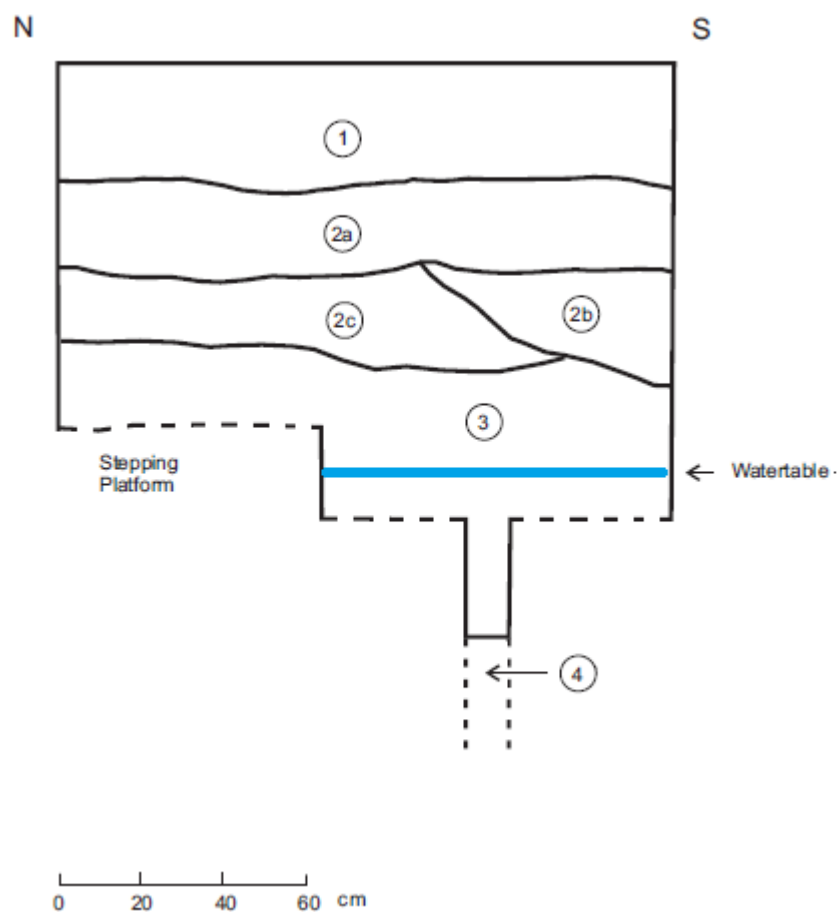
Annex B

Test Pits Records

Detailed Record of Conducted Test Pits

Site Code	NWSK2013		Test Pit No.	TP1	
Test Pit Coordinate (E,N)	839699.800	844101.407	Test Pit Measurement (L*W) (m)	1m x 1.5m	
Digging Method	Hand Digging		Ground Level	+3.3 mPD	
Stratigraphy					
Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Loose dark brown clayish soil with lots of plantation roots included.	None	Modern	0	28-30
2a	Greyish yellow sandy soil. Found to be compact.	None	Modern	28-30	18-20
2b	Reddish yellow sandy soil. Relatively loose compare to Layer 2a.	None	Modern	46-50	0-28
2c	Yellowish sandy soil. Relatively loose compare to Layer 2b.	None	Modern	46-50	16-26
3	Greenish grey sandy soil with some very small stone pieces included in the bottom part of this layer. An auger hole was drilled from this layer at the bottom of the pit.	None		70-78	18-66
4	Sterile layer of compact yellowish sandy soil with some reddish and white soil included which indicates the layer is formed by the weathered bedrock.	None		144	>30

Drawing



East Section

Photographic Record



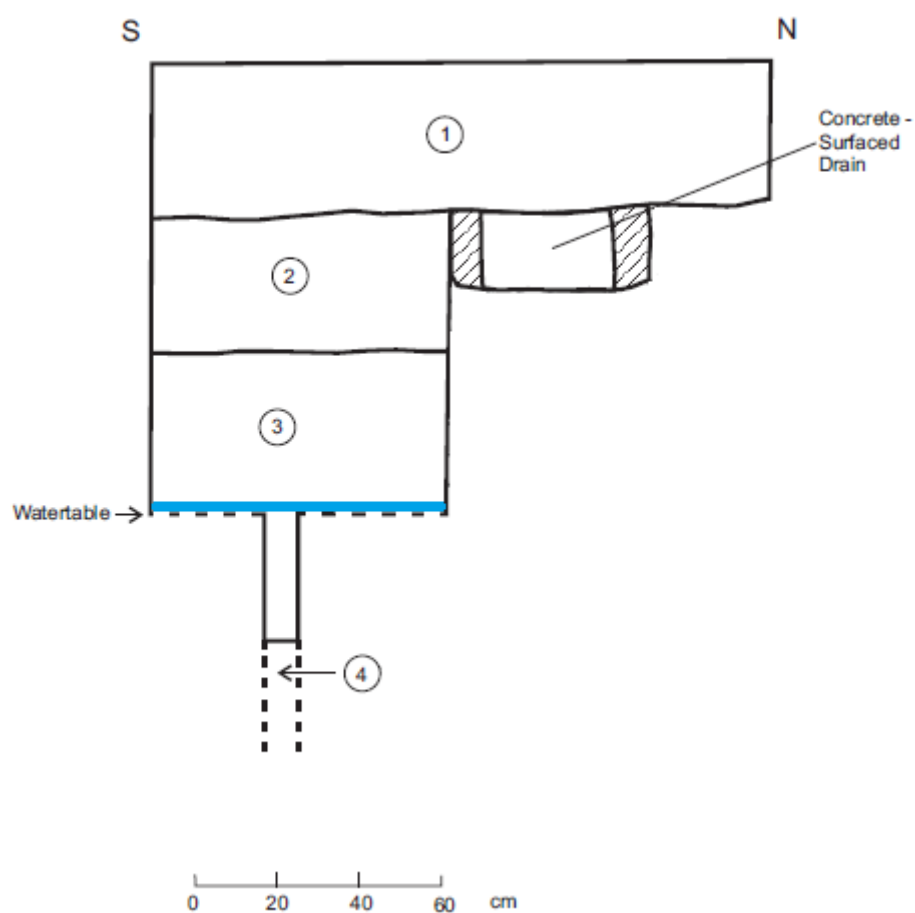
View of East Wall



General View of TP1 (from West to East)

Site Code	NWSK2013		Test Pit No.	TP2	
Test Pit Coordinate (E,N)	839705.734	844116.074	Test Pit Measurement (L*W) (m)	1m x 1.5m	
Digging Method	Hand Digging		Ground Level	+3.6 mPD	
Stratigraphy					
Layer	Description	Cultural Remains	Archaeological Dating	Depth from Ground Level (cm)	Thickness (cm)
1	Loose dark brown clayish soil with lots of plantation roots included.	Pottery shard	Modern	0	33-38
2	Greyish yellow sandy soil.	Tile shard and a concrete-surfaced drain was found under L1 and cut into L2	Modern	33-38	31-33
3	Greenish grey sandy soil with some very small stone pieces included in the bottom part of this layer. An auger hole was drilled from this layer at the bottom of the pit.	None		64-71	38-69
4	Sterile layer of compact yellowish sandy soil with some reddish and white soil included which indicates the layer is formed by the weathered bedrock.	None		140	>27

Drawing



West Section

Photographic Record



View of West Wall



General Top of TP2 (from East to West)

Annex C

List and Photographic
Record of General Finds

List of General Finds

Location	Bag	Stratigraphy	Dating	Material	
				Village ware (Pottery)	Tile
TP2	01	L1	20 th century to modern	1	
TP2	02	L2	20 th century to modern		1
Total				1	1

Photographic Record of General Finds

General Finds of TP2



Exterior (Left) and Interior (Right) View of the Pottery Shard Dated to the 20th century to Modern Period
Found in Layer 1 of TP2



Exterior (Left) and Interior (Right) View of the Tile fragment Dated to the 20th Century to Modern Period
Found in Layer 2 of TP2

Annex D

Land Survey Record

PROPOSED TRUNK SEWAGE
PUMPING STATION, PS2

