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Consultancy for Heritage Impact Assessment for Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark

Volume II - Archaeological Impact Assessment

March 2011

Architectural Services Department

FINAL REPORT

Architectural Services Department

Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark:
Heritage Impact Assessment – Volume 2 - Archaeological Impact Assessment

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FINAL REPORT

Architectural Services Department

Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark: *Heritage Impact Assessment – Volume 2 - Archaeological Impact Assessment*

March 2011

For and on behalf of ERM-Hong Kong, Limited	
Approved by:	Frank Wan
Signed:	
Position:	Partner
Date:	10 March 2011

CONTENTS

ANNEXES

1 INTRODUCTION

1.1 PROJECT BACKGROUND

The Centre for Architectural Heritage Research Centre (CAHR) has been commissioned by the Architectural Services Department (ArchSD) to conduct a Heritage Impact Assessment (HIA) that included a Built Heritage Impact Assessment (BHIA) and Archaeological Impact Assessment (AIA), for Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark the end of 2010. ERM-Hong Kong Limited, as the sub-consultant of the CAHR, covered the scope for the AIA.

The Former Police Married Quarters on Hollywood Road (the Site) has remained vacant since 2000. In 2007, Chief Executive (CE) announced in his 2007-08 Policy Address that for exploring revitalization of the site, removed the site from "List of Sites for Sale by Application". In his 2008-09 Policy Address, CE announced the Site was dedicated for revitalisation with creative industries and related education uses. In the 2009-10 Policy Address, CE further announced to include the Site into one of the eight projects under the "Conserving Central" initiative. In 2010, proposals for transforming the former Police Married Quarters on Hollywood Road into a creative industries landmark had been launched. In 2010 November, the Advisory Committee on Revitalisation of Historic Buildings completed the selection of the proposals and Development Bureau had announced the successful proposal and the selected operator is Musketeers Education and Culture Charitable Foundation Limited (Musketeers Foundation), with the support of Hong Kong Design Centre, Hong Kong Polytechnic University and the Hong Kong Design Institute of Vocational Training Council, and the revitalized site will be named as "PMQ" (原創坊). Musketeers Foundation has set up a special purpose company to run the Site and best fulfill the three objectives of the project, namely promotion of creative industries, heritage conservation and provision of public open space.

The Site, also known as Former Central School, has been listed as a Site of Archaeological Interest after the site investigation in 2007, and has been rated as Grade 3 Historic Building in November 2010. The proposed works for the Project involve preserving two existing buildings, Block A and Block B, and the existing Junior Police Call (JPC) Clubhouse, and transform them to provide facilities for creative industries, heritage conservation and provision of public open space uses. It has been proposed that Blocks A and B will be connected by an I-cube for events of creative industries; the existing JPC Clubhouse will be transformed to a restaurant; and an Underground Interpretation Area (hereafter referred to as 'UIA') beneath the courtyard between Blocks A and B will be constructed for meeting public aspiration of displaying foundation remains and objects of archaeological interest in association with the Former Central School and manifesting the culturally significant history of the Former Central School which had been sit on the site.

For further details on the project background, please refer to Chapter 1 in Volume 1 for BHIA. This Volume 2 presents the AIA of the HIA Report.

1.2 STRUCTURE OF THE REPORT

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

Section 2 presents the methodology for Archaeological Impact Assessment;

Section 3 presents the baseline condition;

Section 4 presents the archaeological potential evaluation and impact assessment;

Section 5 presents the mitigation measures;

Section 6 presents the conservation proposal and the conservation management plan;

Section 7 presents the conclusion; and

Section 8 provides the bibliography of the research.

The following annexes are also included:

Annex A *Location Plan and Drill Hole Records for the Four Drill Holes of Phase I Ground Investigation Works*

Annex B *Location Plan and Photographic Records for the Ten Trial Pits of Phase I Ground Investigation Works*

Annex C *Findings of Phase II Ground Investigation Works*

Annex D *Findings Extracted from Report on Stability Assessment of Existing Retaining Walls Former Police Married Quarters at Hollywood Road*

1.3 DEFINITION OF TERMS

In denoting different parts of the Project Site (hereafter referred to as "the Site") in this Report, the terms used follow those adopted in *Section 1.3* of the *Conservation Guidelines for Former Police Married Quarters Site on Hollywood Road* (hereafter referred as "Conservation Guidelines") prepared by the Antiquities and Monuments Office (AMO) in February 2010. The Site location plan and general Site plan are shown in *Figures 1.1* and *1.2* respectively, and *Table 1.1* lists the terms and their definitions.

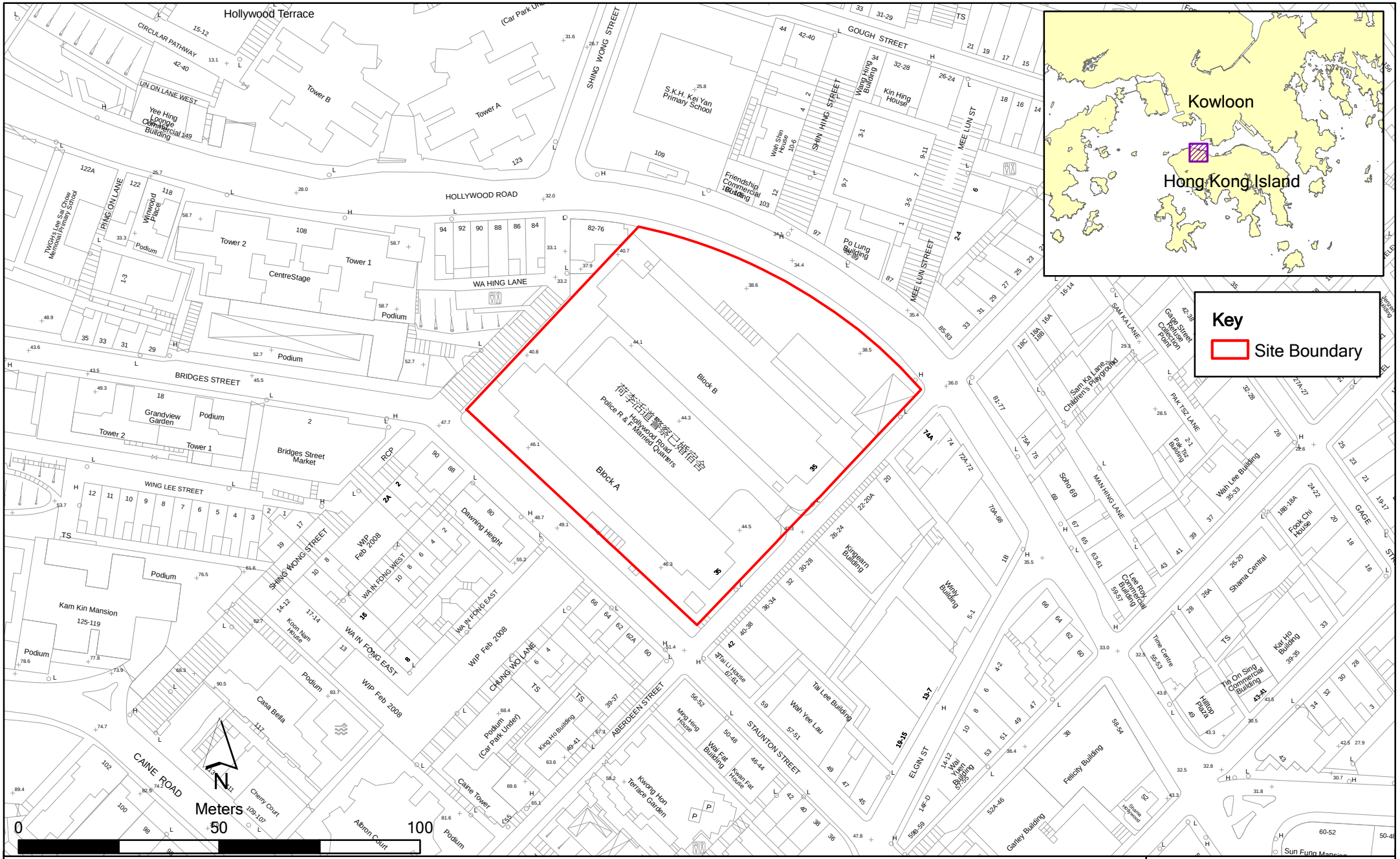

Figure 1.1

Location Plan of the Site

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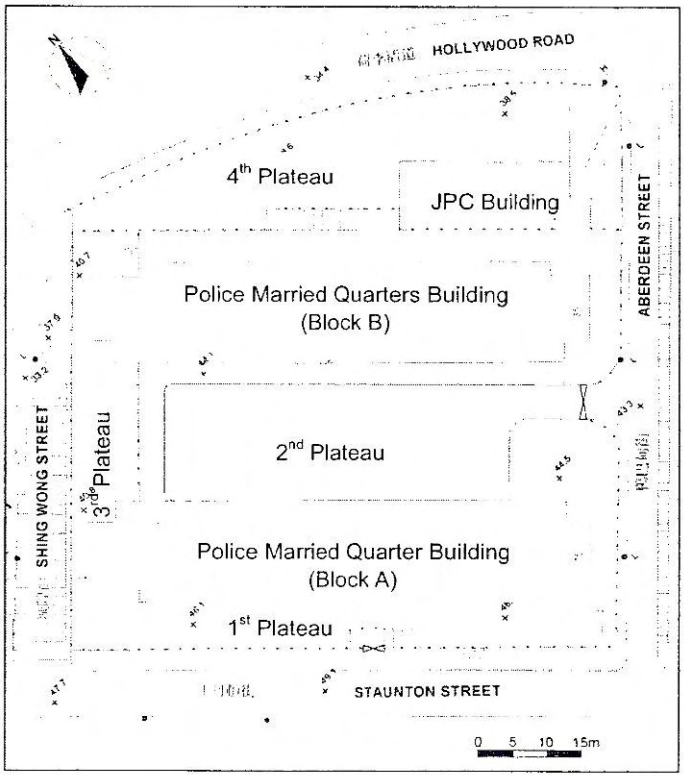

Site Plan (Not to scale)

(Source: Antiquities and Monuments Office, *Conservation Guidelines for Former Police Married Quarters Site on Hollywood Road*, Unpublished, February 2010, p. 4)

Figure 1.2 General Site Plan Denoting the Names of Different Locations

Table 1.1 Definitions of Terms as Adopted in the Conservation Guidelines

Term	Definition
The Former Police Married Quarters Site / the Former Central School Site / the Site	The whole site, which is bounded by Hollywood Road to the northeast, Aberdeen Street to the southeast, Staunton Street to the southwest, and Shing Wong Street to the northwest
The 1st Plateau	The plateau at the level in approximate 46.3mPD as existing, adjoining Staunton Street at the southwest of the Site
The 2nd Plateau	The plateau at the level in approximate 44.1mPD as existing, at the centre of the Site with a vehicular access leading from Aberdeen Street
The 3rd Plateau	The plateau at the level in approximate 40.7mPD as existing, at the northwest of the Site adjoining Shing Wong Street
The 4th Plateau	The plateau at the level in approximate 38.5mPD as existing, at the northeast of the Site adjoining Hollywood Road
The Police Married Quarters / the PMQ	The buildings clusters built in 1950, including the two Quarters Buildings (Blocks A and B) and the JPC Building
The Police Married Quarters Buildings / the PMQ Buildings / the Quarters Buildings	The two 7-storey high Quarters Blocks (Blocks A and B) built in 1950 and opened in 1951
The Junior Police Call Building / the JPC Building	A 2-storey building on the 4th Plateau built in 1950, formerly used as the Recreation Centre of the PMQ and Lastly used as the Junior Police Call Clubhouse before left vacant in 1996

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2 METHODOLOGY

In accordance with *Clause 2.9* of the *Heritage Impact Assessment Consultancy Brief for Transformation of the Former Police Married Quarters Site on Hollywood Road into A Creative Industries Landmark* (hereafter referred as "HIA Brief") prepared by the Architectural Services Department (ArchSD) in November 2010, the Project Site falls within a site of archaeological interest identified by the AMO. Thus, a HIA is required.

The HIA Brief also stated in *Clause 3.1* that the Consultant is required to strictly adhere to the guidelines and requirements set forth by AMO (i.e. the *Technical Circular (Works) No. 6/2009, Memo dated 4 June 2010 and Guidelines for Heritage Impact Assessment issued by AMO in June, 2010* and *Conservation Guidelines for the PMQ* issued by AMO in February 2010) during conduction of the HIA.

The methodology for this HIA follows the *Guidelines for Heritage Impact Assessment* and the *Conservation Guidelines*. This Report covers the Archaeological Impact Assessment (AIA) of the HIA.

2.1 TASKS INVOLVED IN THE ARCHAEOLOGICAL IMPACT ASSESSMENT

The AIA comprises the following tasks.

2.1.1 Task 1 - Desktop Research

Desktop research was undertaken to identify the archaeological resources and their baseline information within the Site. The desktop study included search and review of topographic background, geology, historical background, geotechnical information, published or unpublished papers, archives, reports of previous archaeological investigations including that of the 2007 Site Investigation conducted by AMO (hereafter referred to as "2007 Site Investigation") (1) and other relevant documents. Information was obtained from the Reference Library of the Hong Kong Heritage Discovery Centre, libraries from local institutions or public libraries, the Map Publications Centre of the Lands Department and the internet. A full bibliography is provided in *Section 8* of the Report.

As advised in *Section 4.1.1* of the *Conservation Guidelines*, the *Charter of Venice* (2), the *Burra Charter* (1) and the *Principles for the Conservation of Heritage Sites in China* (2) were also reviewed.

(1) Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, retrieved 22 December 2010, <http://www.lcsd.gov.hk/CE/Museum/Monument/form/AAB_Paper131_hollywood_content_e.pdf>.

(2) International Council on Monuments and Sites (ICOMOS), *International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter - 1964)*, 1965, retrieved 23 December 2010, <http://www.international.icomos.org/charters/venice_e.htm>.

2.1.2 *Task 2 – Ground Investigation Works*

As part of the detail design for the Project, a two phased ground investigation (GI) works have been scheduled.

In Phase I GI, 4 vertical drillholes (BH1-BH4) were conducted to examine the ground condition of the proposed columns supports. The GI was conducted between 29 November 2010 and 11 December 2010 and the preliminary results are available for review.

Further to the drillholes findings, 10 trial pits (TTA1 to TTA8, TTB1 and TTB4) were also conducted to obtain field data for the detailed design in December 2010.

Location plan and the 4 drillhole records are presented in *Annex A*, and location plan and photographic record of the 10 trial pits are presented in *Annex B* for reference.

Further to Phase I GI work as described above, it is considered that additional 2 trial pits is required to obtain further detailed field data for the design of the proposed UIA. Therefore, a Phase II GI was conducted from 18 to 24 February 2011. The findings was incorporated into this AIA (as part of HIA) report and presented in *Section 3.4.2* below.

2.1.3 *Task 3 – Archaeological Impact Assessment*

As extensive site investigation had been conducted by AMO in 2007 and further supplementary field information were obtained from the GI findings for the Project, further archaeological investigation is therefore considered not necessary as part of the HIA for the Project. Therefore, based on the findings from *Tasks 1* and *2*, an AIA (as part of HIA) has been conducted to evaluate the potential archaeological impact due to the construction and operation of the Project.

Preservation in totality has been taken as the first priority. In case potential adverse impacts on archaeological resources are identified to be unavoidable, appropriate mitigation measures are recommended to avoid and minimise the impacts. Appropriate conservation policy, conservation strategy, maintenance and management plan, if considered necessary, are recommended.

2.1.4 *Task 4 – Reporting*

The findings and recommendations of the AIA presented in this report forms part of the HIA for the Project.

(1) Australia ICOMOS, The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (The Burra Charter), 1999, retrieved 23 December 2010, <http://australia.icomos.org/wp-content/uploads/BURRA-CHARTER-1999_charter-only.pdf>.

(2) China ICOMOS, Principles for the Conservation of Heritage Sites in China - English-language Text, Neville Agnew and Martha Demas (eds.), Getty Conservation Institute, Los Angeles, 2004, retrieved 23 December 2010, <http://www.getty.edu/conservation/publications/pdf_publications/china_prin_2english.pdf>.

3 BASELINE CONDITION

3.1 TOPOGRAPHIC BACKGROUND

The Site, also known as the Former Central School, is located at No. 35 Aberdeen Street in Central, measuring about 6,000m². The Site is situated at the northwest part of the Hong Kong Island near the northern coast. Being situated at the city centre, it is bounded by Shing Wong Street to the northwest, Hollywood Road to the northeast, Aberdeen Street to the southeast and Staunton Street to the southwest (see *Figure 1.1*). The northern part of Hong Kong Island has been heavily developed since the very beginning of the colonial period and the original coastline at the northern shore of the Island has been reclaimed a number of times to the present condition.

The Site is located approximately 260m from the original northern coastline at its north. It used to be the site of Central School (later renamed as Victoria College in 1889) as shown in *Figure 3.1* with the coastline north of the School at the time. To the southwest and southeast, the Site is protected by the Victoria Peak (552m in height) and the Mount Gough (479m in height) respectively and they are separated by the Victoria Gap. Based on the topographical condition of the area, the Site is considered well protected by the mountains at the south from strong wind.

The Site was located within the Victoria City which development had started since the mid-19th Century. Therefore, the Site has been surrounded by urban environment form the mid-19th Century to present days. The aerial photos of year 1949 and 2007 are presented in *Figures 3.2* and *3.3* respectively.

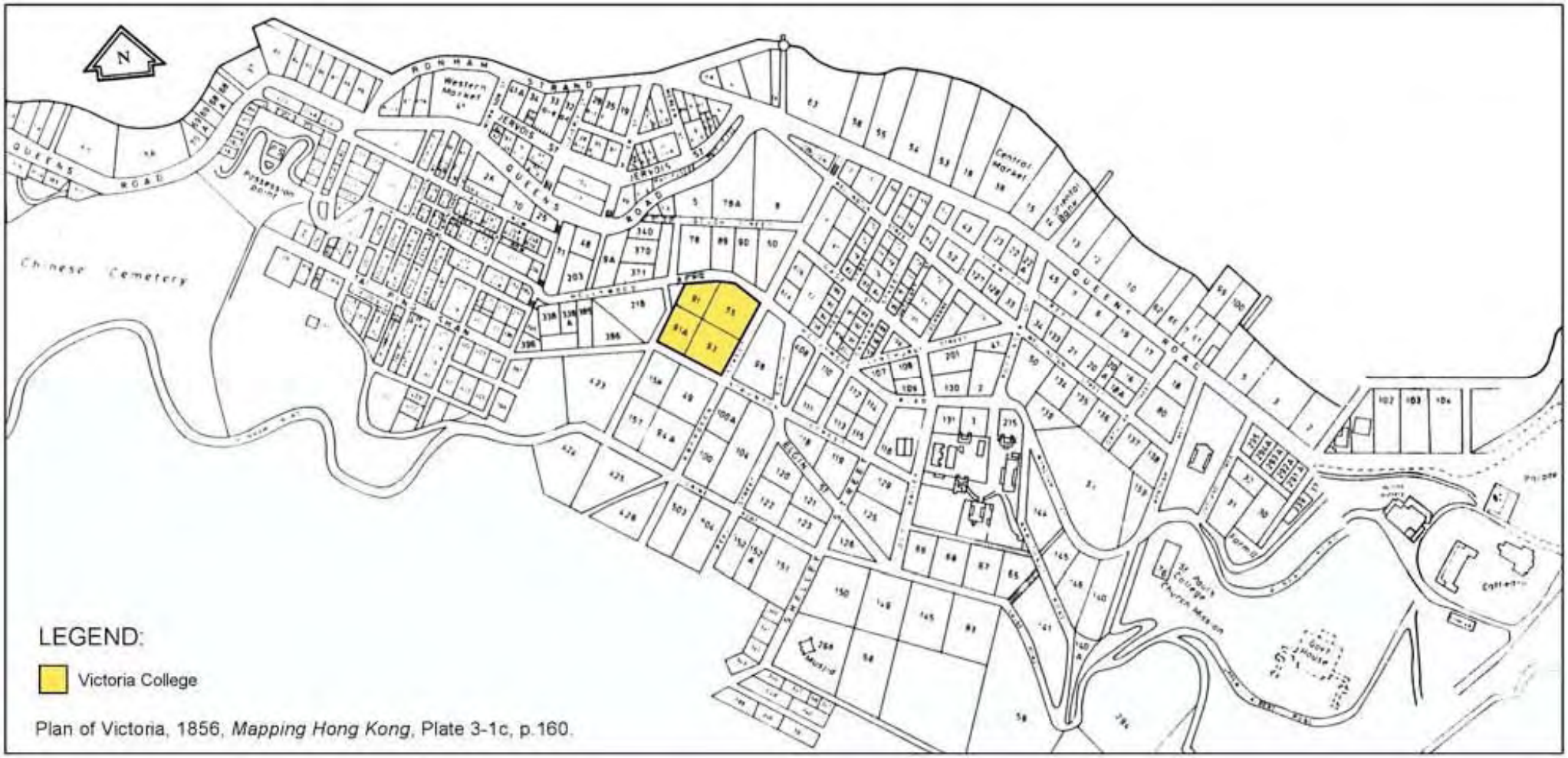
3.2 GEOLOGY (1)

The Site is situated on Kowloon Granite (Klk), which are Cretaceous intrusive rocks with an approximate age of 140.4 ± 0.2 million years before present. The lithology of Kowloon Granite is equigranular medium-grained biotite granite. Between the University of Hong Kong and the Central District, the granite is light grey to light pink, uniform, equigranular and medium-grained, with an average grain size of 3 to 4 mm. A NE-SW fault runs through the Victoria Gap. The superficial deposit of the Site is debris flow deposit. The geological map of the Site and the adjacent area is shown in *Figure 3.4*.

3.3 HISTORICAL BACKGROUND

Please refer to Chapter 2 in Volume 1 of BHIA.

(1) Civil Engineering and Development Department, *The Geology of Hong Kong (Interactive On-line)*, 2010, retrieved 12 January 2011, <http://www.cedd.gov.hk/eng/about/organisation/org_geo_pln_map.htm>.



Source: Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, Annex D 14.

Figure 3.1

Site Location of Victoria College in 1856

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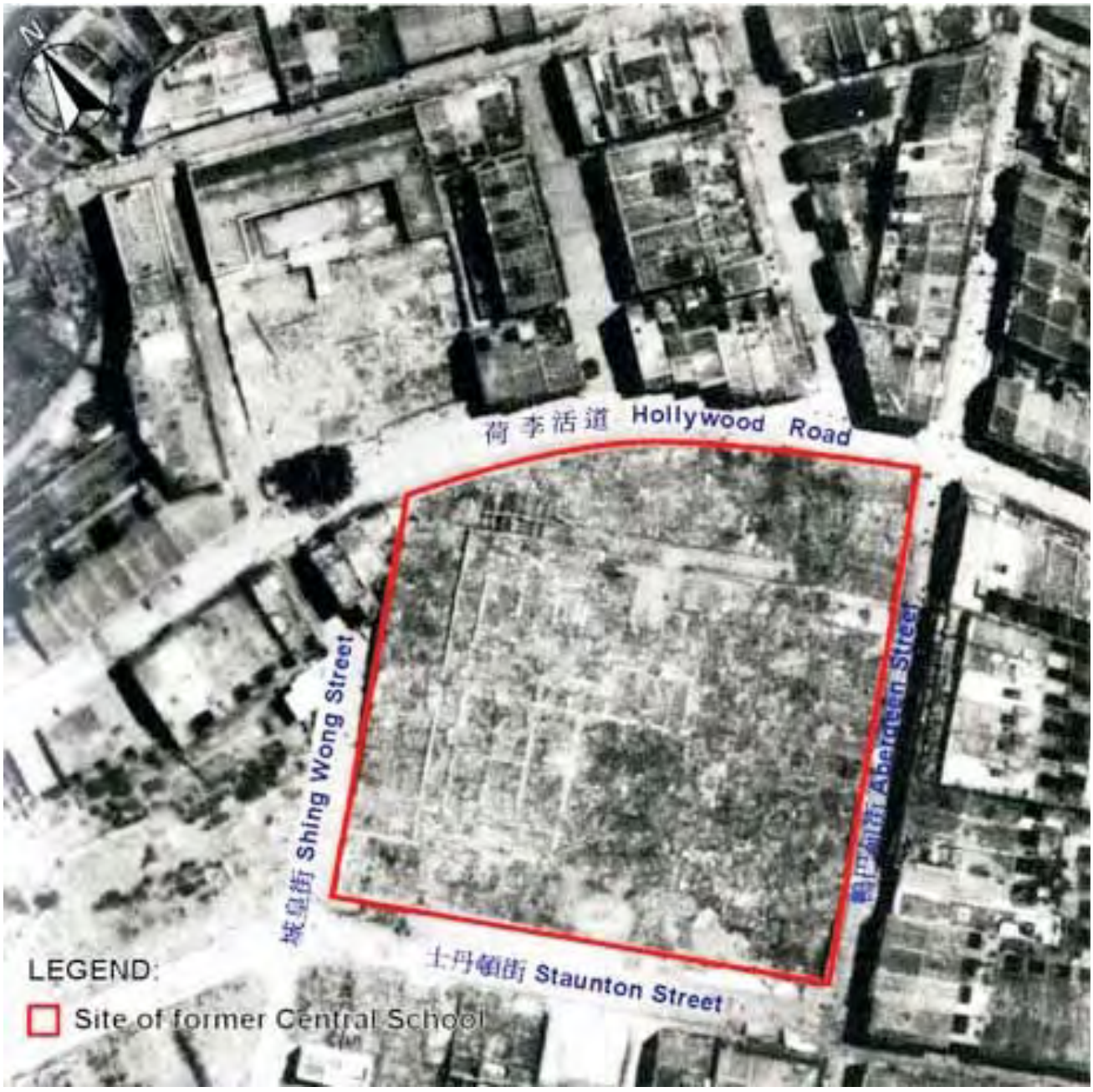

Source: Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, Annex D 1.

Figure 3.2

Aerial Photo of the Site in 1949

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Figure 3.3

Aerial Photo of the Site in 2007

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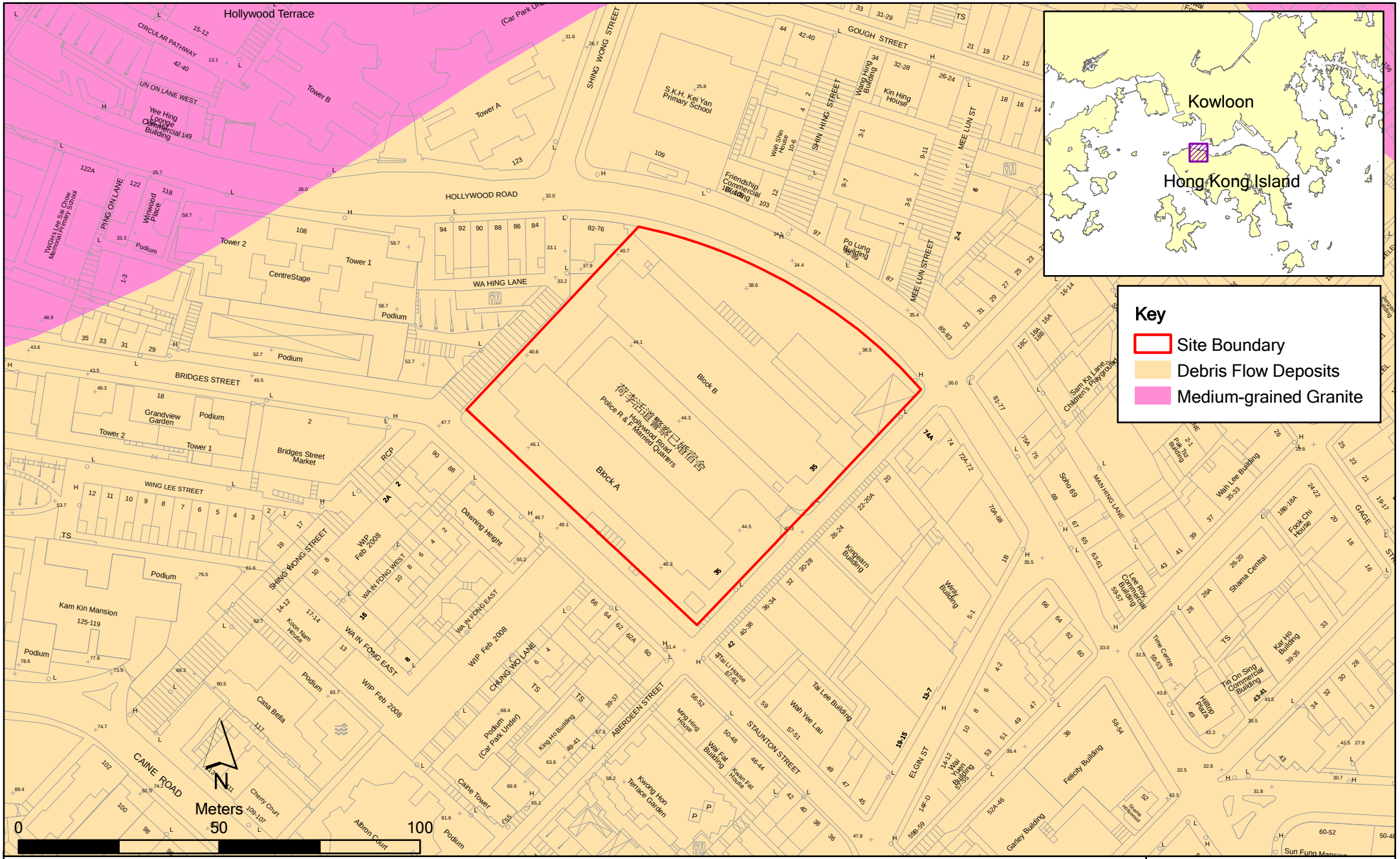

Figure 3.4

Geology Map

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Date: 14/01/2011

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3.4 ARCHAEOLOGICAL BACKGROUND

3.4.1 Desktop Findings

In 1998, the Site was rezoned from "Government, Institution and Community" (G/IC) to "Residential (Group A)" on the Sai Ying Pun and Sheung Wan Outline Plan (OZP, No. S/H3/11). It was included in the List of Sites for Sale by Application in March 2005. In view of the similar discovery of the Former Mountain Lodge at the Peak, there were claims that the foundations of Shing Wong Temple and Central School might have been preserved in-situ at the Site. After a number of discussions on the historical importance of the Site at the Antiquities Advisory Board (AAB) meetings between 2005 and 2006, the AAB considered that heritage preservation requirements should be imposed on the redevelopment of the Site. The prospective developer would be requested to submit a conservation plan for the preservation and maintenance of the historic features at the Site to the satisfaction of the AMO. In order to ascertain the archaeological potential of the Site, an extensive archaeological investigation had been conducted at the Site by AMO in 2007 after the AAB meeting on 6 March 2007 (1). The findings are presented in the 2007 Site Investigation Report (available in the AMO website), which forms the primary reference source in understanding the archaeological background of the Site.

The 2007 Site Investigation included on-site inspection of the remnants of the Central School (later renamed as Victoria College) above ground and subsurface investigation and involved an excavation covering about 600m^2 at three plateaux of the Site. A plan showing the locations of excavated trenches has been cited from the 2007 report and extracted in *Figure 3.5*. The investigation was phased, Test Grid/Trench No. 1 to 8 and No. 9 to 15 were excavated in the first and second phases respectively.

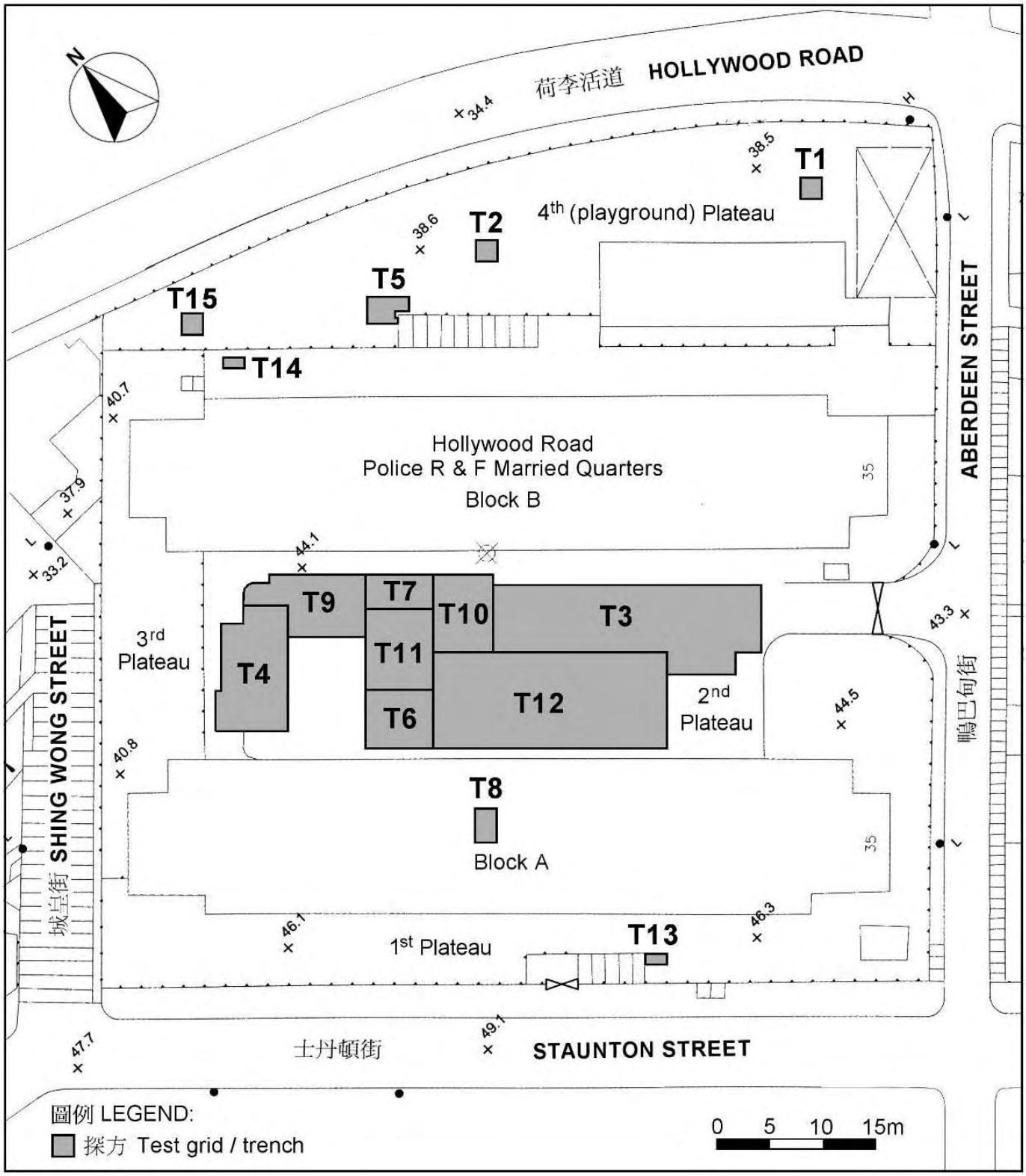
The discovery mainly related to the remnants of the Former Central School. The previous playground surface conceivably of the Central School has been revealed at the 4th Plateau. Old stone steps near the historical stair flight leading to the playground were also found.

At the 2nd Plateau, features identified included: fragments of cement flooring; layer of hard-core; underground drainages; foundation walls; mortar wall and white mortar floor; inked marks on granite blocks; and remains of mud walls. A feature plan illustrating the locations of major features and a plan showing the corresponding Trial Trench system at the 2nd Plateau has been cited from the report (see *Figures 3.6* and *3.7* respectively). *Figure 3.8* is a bird view photo showing the exposed features at the 2nd Plateau in the 2007 Site Investigation.

Collected finds included: ceramic shards; bronze coins; and ceramic floor tiles. Manufacturer marks impressed on the tiles found at the Site were the same as those on the tiles unearthed from the Former Mountain Lodge at the Peak (2).

(1) Antiquities and Monuments Office, *2007 Site Investigation Report*.

(2) Ibid.



Source: Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, Figure 1.

Figure 3.5 Location of Trial Trenches in the 2007 Site Investigation

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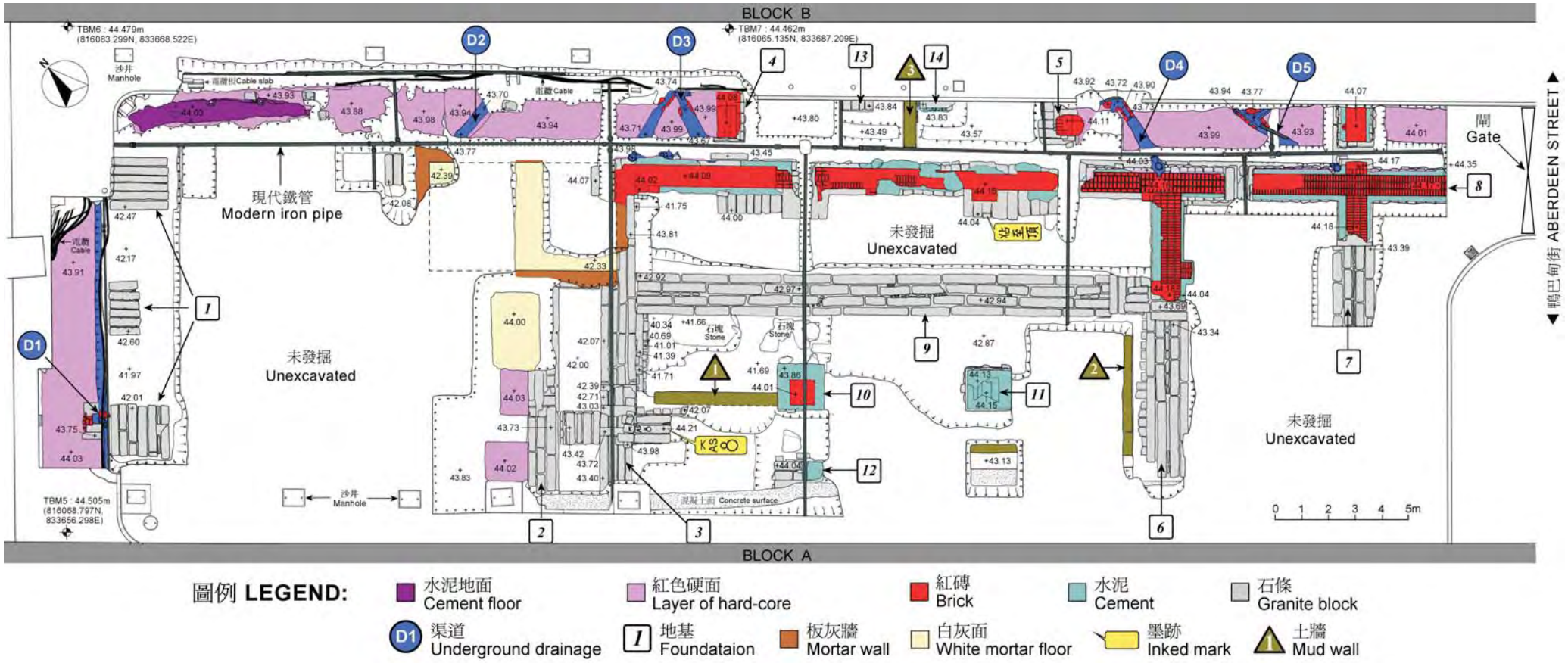

Source: Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, Figure 13.

Figure 3.6

Location Plan of Major Features in the 2007 Site Investigation

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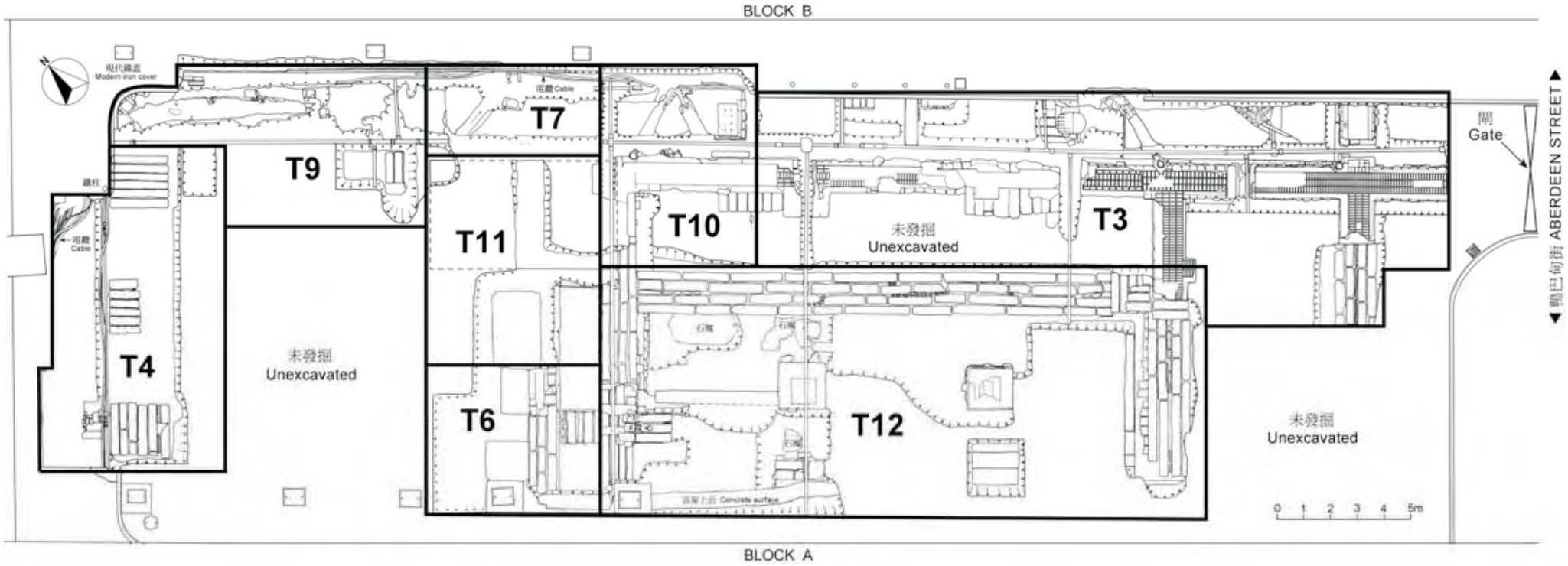

Source: Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, Figure 9.

Figure 3.7

Location of Trial Trenches at the 2nd Plateau in the 2007 Site Investigation

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Source: Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, Plate 47.

Figure 3.8 Bird View Photo Showing the Exposed Features at the 2nd Plateau in the 2007 Site Investigation

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Table 3.1 summarises the major features and finds identified within the whole site during the 2007 Site Investigation.

Table 3.1 Major Features and Finds Identified within the whole site during the 2007 Site Investigation

Features/Finds	Quantity	Denotation
Features		
Cement Floor	Fragments of Cement Floor	-
Layer of Hard-Core	4 Areas	-
Underground Drainage	5 Nos.	D1 – D5
Foundation Walls	14 Nos.	Foundation Wall No. 1 – No. 14
Mortar Wall and White Mortar Floor	2 Nos. of Mortar Walls & 1 No. of White Mortar Floor	-
Inked Marks on Granite Blocks	Groups of numerical marks	-
Remains of Mud Walls	3 Nos.	Mud Wall No. 1 – No. 3
Features Made of Cement	4 Nos.	A – D
Rectangular Granite block	1 No.	-
Stone Objects/Steps	6 Nos.	A – C, D1-D3
Rubble Retaining Wall	1 No.	E
Finds		
Ceramic Floor Tile	1,929 Pieces	-
Building Materials	Numerous	-
Porcelains	661 Pieces	-
Pottery	399 Pieces	-
Other Finds	53 Objects (including bronze coins, shells, glasses, jade object, etc.)	-

Besides, as shown in *Figure 3.7*, some areas at the 2nd Plateau have not been excavated in 2007 due to site constraints at the time.

The 2007 Site Investigation Report concluded that the foundations and other features of the Former Central School have been significantly disturbed by the development on site in the past. The chance of finding better preserved parts within the Site in the future investigation is very low.

The Former Central School Site has been listed as a Site of Archaeological Interest after the site investigation in 2007 (1)

With regard to the foundation remains of Shing Wong Temple, the 2007 Site Investigation Report stated that Lot No. 4 was Joss House, No. 10, Shing Wong Street, which might be Shing Wong Temple, based on the Hong Kong Government Gazette issued on 6 January 1877. However, Public Record Office confirmed there was no plan attached to the Gazette, and it was

(1) Antiquities and Monuments Office. 2007. Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report; [information on line]; available from http://www.lcsd.gov.hk/CE/Museum/Monument /form/AAB_Paper131_hollywood_content_e.pdf; internet.

believed that all the tiles, bricks and stones of the Shing Wong Temple were removed after a public land auction in 1877. Therefore, the possibility of finding the foundation structures of Shing Wong Temple is considered low.

3.4.2 Ground Investigation (GI) Findings

3.4.2.1 GI Findings from Stability Assessment

In addition to the archaeological site investigation conducted in 2007, a *Report on Stability Assessment of Existing Retaining Walls* was conducted at the Site by the Civil Engineering and Development Department (CEDD) in May 2010 (1), for ground investigation and 6 drill holes, 28 core holes, 16 trial pits and 7 inspection pits were conducted under this Study between 11 November 2009 and 11 January 2010. The results revealed channel structures/U-channels in three of the trial pits (i.e. TP2 on 2nd Plateau, TP16 on 4th Plateau and TP17 on 1st Plateau). Construction materials involved included granite slabs, red brick structures, sand mortar etc. These structures may be associated with the former buildings on site and therefore considered to have archaeological potential. Locations of the three trial pits, their photographic records and trial pit records from the report are extracted and presented in *Annex D*.

3.4.2.2 Phase I GI Work

Phase I GI works included excavation of 10 trial pits (TTA1 – TTA8, TTB1 and TTB4) and 4 drill holes (BH1 – BH4) which were conducted between November and December 2010 under the supervision of the ArchSD. The trial pits were to ascertain the proposed location of pile caps and tie beams for I-cube. Their locations are shown in *Figure B* in *Annex B*.

The data obtained from the 4 drillholes shows that there are three main layers identified, i.e. fill, colluvium and saprolitic soils. They were all encountered in each drill hole. The strata intervals and thickness of each layer for the 4 drill holes were presented in *Table 3.2*. Drill hole records and locations of BH1 to BH4 are shown in *Annex A*.

(1) Civil Engineering and Development Department. 2010. *Report on Stability Assessment of Existing Retaining Walls Former Police Married Quarters at Hollywood Road* Hong Kong: Geotechnical Projects Division, Geotechnical Engineering Office, Civil Engineering and Development Department.

Table 3.2 ***Summary of Strata Intervals and Thickness of BH1 to BH4***

Layer	BH1	BH2	BH3	BH4
	Depth	**Depth**	**Depth**	**Depth**
	Thickness	**Thickness**	**Thickness**	**Thickness**
Fill	0 – 8	0 – 2.8	0 – 4	0 – 4
	8	2.8	4	4
Colluvium	8 – 14	2.8 – 16	4 – 10.5	4 – 8
	6	13.2	6.5	4
Granite	14 – 60.45	16 – 60.45	10.5 – 60.95	8 – 60.45
	46.45	44.45	50.45	52.45

Note:
(a) All units are in meter.

As shown in *Table 3.2*, amongst the 4 drill holes, BH2 has recorded the thinnest fill layer (i.e. 2.8m) and thickest colluvium layer (i.e. 13.2m). In other words, amongst the 4 drill holes, the archaeological potential of the area around BH2 will likely be higher than the rest.

In TTA4 (as shown in *Figure B* in *Annex B*), part of a granite slab feature was identified on the 3rd Plateau adjacent to the existing retaining wall and balustrade separating the 2nd and 3rd Plateaux. However, whether the revealed part of the granite slab feature was associated with the Former Central School Site is unknown as according to the plan of the Former Central School as presented in *Figure 4.1*, TTA4 falls outside the foundation plan of the Former Central School.

During the GI works, it was attempted that TTA7 be opened outside the archaeological deposits area. However, due to some discrepancy, part of TTA7 reached the archaeological deposits area where some granite slabs of the Foundation 12 discovered by the AMO in 2007 was found.

Regarding the remaining trial pits, no archaeological deposits or features have been reported.

3.4.2.3 Phase II GI Works

Phase II GI works, which were conducted from 18 to 24 February 2011, involved two trial pits denoting TTC1 and TTC3. They are located on the 2nd Plateau, where the UIA of the revitalization project as well as the proposed pile cap and tie beam are located. *Figure 3.9* shows the location of the two trial pits, and the findings are presented below and *Annex C* presents the trial pit records and log sheets.

Stratigraphy

TTC1

Trial pit TTC1 measuring 2.2m (W) x 3.2m (L) x 1m (D) was excavated on the 2nd Plateau. Located at the northwest of the 2nd Plateau, TTC1 has stratigraphy as follows:

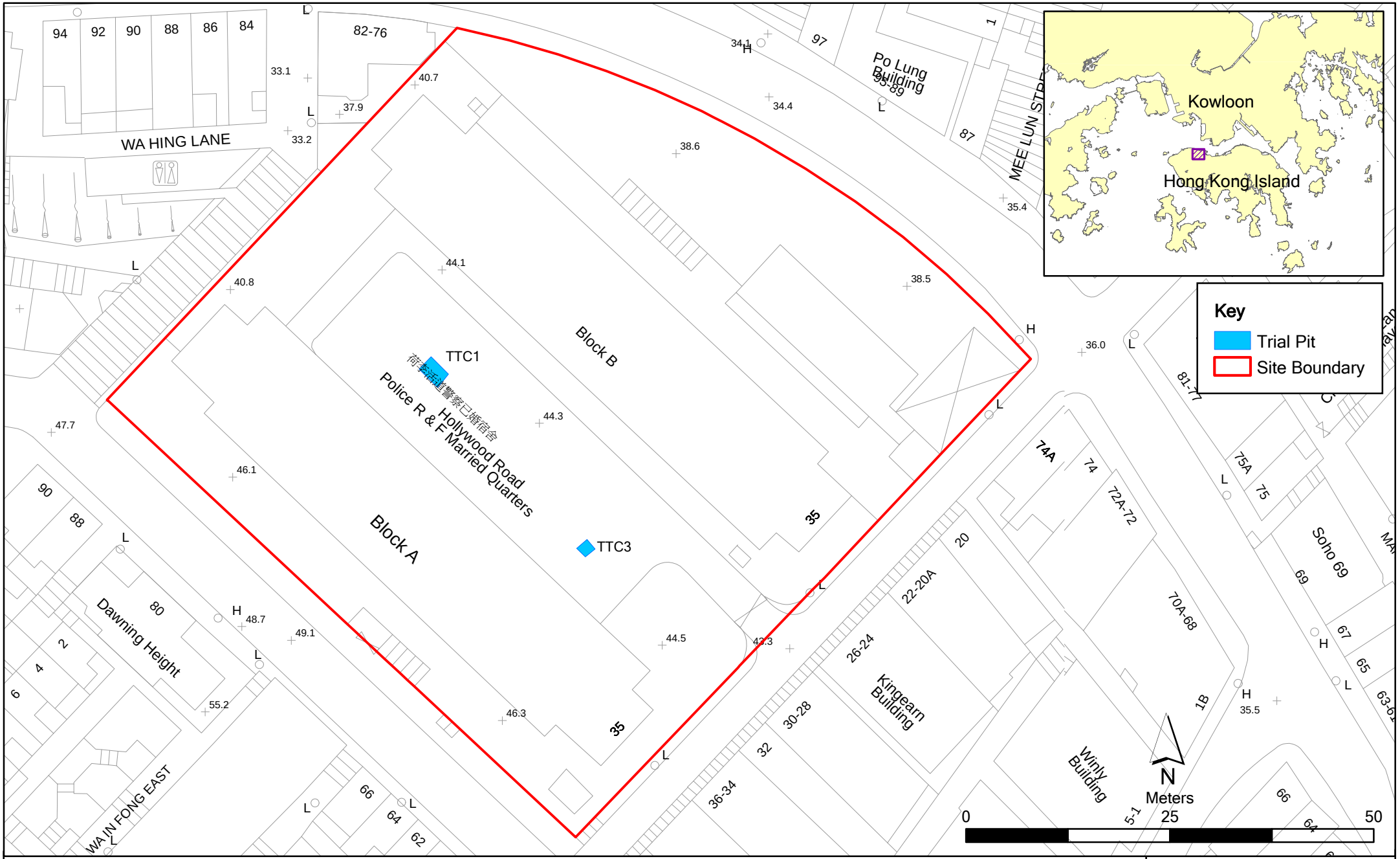

Figure 3.9

Location of Trial Pits in Phase II GI Work

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Stratum 1: modern sand and stone composite (fill materials in 2007), 0.16 – 0.4m thick;

Stratum 2: reddish-brown sandy clay with brick and roof tile fragments, 0 – 0.18m thick;

Stratum 3: yellowish clayey sand with brick and roof tile fragments, 0 – 0.18m thick; and

Stratum 4: reddish silty sand with brick and roof tile fragments, 0.06 – 0.48m

TTC3

Trial pit TTC3 measuring 1.5m(W) x 1.5m(L) x 2m(D) was excavated on the 2nd Plateau. Located at the southeast of the 2nd Plateau, TTC3 has stratigraphy as follows:

Stratum 1: modern concrete/sand and stone, 0.2m;

Stratum 2: reddish-brown sandy clay with brick and roof tile fragments, 0.08 – 0.1m thick;

Stratum 3: yellowish clayey sand with brick and roof tile fragments, 0.12 – 0.26m thick;

Stratum 4: reddish silty sand with brick and roof tile fragments, 0.6 - 1.1m; and

Stratum 5: sterile layer

Interpretation of Findings

TTC1: Archaeological Feature – White Mortar Hard Surfaces

Two white mortar hard surfaces were identified in TTC1 (see *Figure 3.10*). They were step-like hard surfaces with a thin layer of lime (approximately 1cm in thickness) in white colour on top, and were aligned in parallel in the north-south orientation. The alignment of the surfaces is found consistent with the general landform of the Site (i.e. hill slope descending from south to north). Part of the white mortar surface at the higher level in the southern corner of the pit (approximately 30cm x 60cm in size) was identified to be the white hard mortar floor unearthed in the 2007 Site Investigation. It was situated at a level approximately 0.7m below existing ground level. The white mortar surface at the lower level in the northwest is approximately 1m below existing ground level.

Figure 3.10 White Mortar Hard Surfaces in TTC1 (From Northwest to Southeast)

To ascertain the existence of any more archaeological remains underneath the white mortar hard surface in TTC1 while preserving them in-situ as much as possible, an attempt was made to drill an auger hole in the trial pit. However, the auger hole was only able to drill approximately 10cm from the surface of the exposed white mortar due to the hardness of the white mortar (see *Figure 3.11*).

Figure 3.11 White Mortar Drilled by Auger Hole in TTC1

Some grey bricks were found accumulated layer by layer (in 5 nos. of layers) at the western corner of TTC3 (see *Figure 3.12*). The usage of the grey bricks is unknown. The grey brick structure is considered a feature not associated with the Former Central School and is probably an *in-situ* structure prior to the construction of the Former Central School.

Figure 3.12 In-Situ Grey Bricks at the western corner of TTC3 (View from Above; From Northeast to Southwest)

Modern intrusion of a pipeline trench was identified at the eastern wall of the trial pit. The trench was overlaid with a pipeline which may still be in use (see *Figure 3.13*). Besides, the trench was regarded as a modern intrusion compacted with pinkish clayey sand and stone fragments extending to the sterile layer beneath. Therefore, it was considered unnecessary to excavate the trench and better to preserve it *in-situ*.

Figure 3.13 Pipeline Trench at the Eastern Wall of TTC3 (From Northwest to Southeast)

4 ARCHAEOLOGICAL POTENTIAL EVALUATION AND IMPACT ASSESSMENT

4.1 ARCHAEOLOGICAL POTENTIAL EVALUATION

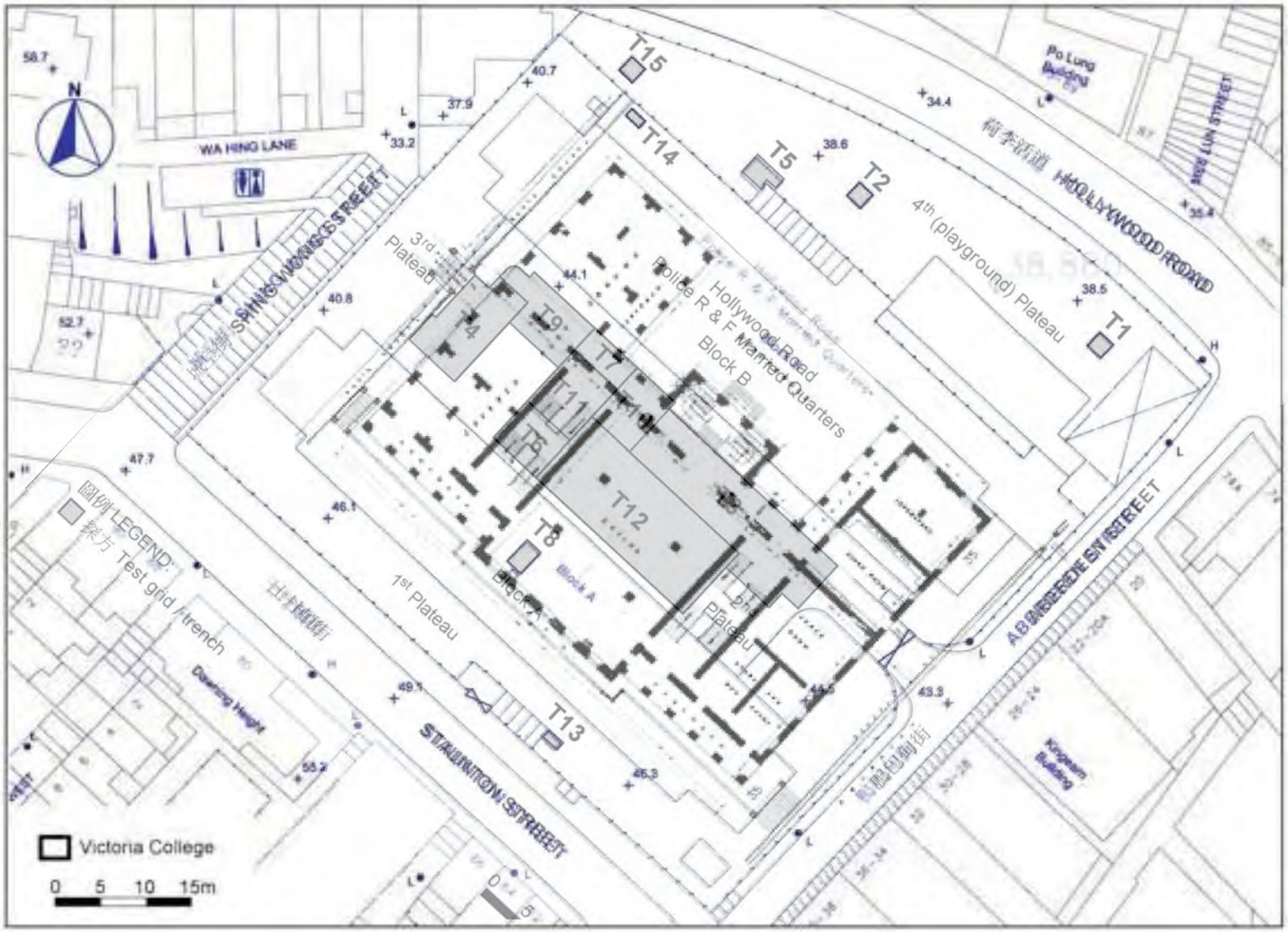
The desktop research identified various features such as foundation remains of the Former Central School and different types of finds including ceramic floor tiles, building materials, porcelains and pottery. The features and finds uncovered during the subsurface investigation of the 2007 Site Investigation were mainly concentrated in the 2nd Plateau between Block A and Block B (*Figures 3.6* and *3.7*), but some remains also exist in other areas such as playground surface of Former Central School and granite structural parts of staircase revealed in the 4th Plateau; granite slab in the 3rd Plateau and features of channel structures on the 1st, 2nd and 4th Plateaux.

Therefore, there is a potential to identify further foundation remains of the Former Central School or objects of archaeological interest in the unexcavated areas and undisturbed areas in these plateaux, where archaeological remains were found in previous archaeological investigation or ground investigations. Nevertheless, as shown in *Figure 4.1* which the basement floor plan dated 1883 was overlaid with the location plan showing the trial trenches conducted in 2007 Site Investigation, further remains of the Former Central School building are likely to be found in the unexcavated areas but as concluded in the 2007 Site Investigation Report, the foundations and other features of the Former Central School have been significantly disturbed by the development on site in the past. The chance of finding better preserved parts within the Site in the future investigation is very low. Thus, only fragmented parts of remains are expected to be uncovered.

Further elaborations on the archaeological potential/value of different areas within the Site are provided in the sections below.

4.1.1 *1st Plateau near Staunton Street*

Excavation of T13 conducted in the 2007 Site Investigation (see *Figure 3.5*) already confirmed no further stone step of the staircase under the existing surface and it shallowly reached the sterile layer at approximately 0.24m from the ground level (46.53 mPD). However, another trial pit conducted (see TP17 as shown *Annex D*) at the northwest end of this Plateau identified a channel structure at a level approximately 0.48m from existing ground level. The structure may probably be a feature associated with former buildings on Site but no record can be founded and thus its significance is unknown. Nevertheless, as shown in *Figure 4.1* no foundation remains of the Former Central School are expected to be found in the 1st Plateau. The chance of identifying significant archaeological remains in the 1st Plateau is considered low.



Source: Antiquities and Monuments Office, *Former Hollywood Road Police Married Quarters – 2007 Site Investigation Report*, 2007, Figure 32.

Figure 4.1

Potential Archaeological Remains in the Unexcavated Areas

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4.1.2 2nd Plateau Between Block A and Block B

A number of remains was found within the Site attributed to the Former Central School buildings during the 2007 Site Investigation and GI works conducted for the Project. Those underground remains uncovered included a number of features, such as fragments of cement flooring, layer of hard-core, underground drainages, channel structure/feature, foundation walls and inked marks on granite blocks attributed to the original foundation of the Central School. It was expected that 40% of the foundation of the Former Central School still remain under the 2nd Plateau, but it is also anticipated that some of them may have already been severely disturbed by the construction of the Former Police Married Quarters in 1950. The 2007 Site Investigation result has stated that the existing conditions of the surviving Former Central School foundation remains are well preserved, if only they are not already disturbed by previous construction works.

Unexcavated Areas within the 2nd Plateau: The unexcavated areas within the 2nd Plateau also show the potential to identify further remains of the Former Central School when referring to *Figure 4.1*. One can see from the figure that the likely remains to be found in those unexcavated areas are non-structural features of the Former Central School.

As such, it is considered that the archaeological value within the 2nd Plateau is relatively higher as better preserved remains of the Former Central School in the unexcavated area within the 2nd Plateau may still be found.

4.1.3 3rd Plateau near Shing Wong Street

As shown in *Figure 4.1*, except for the two spots (believably where the columns of the school building were situated) identified on the 3rd Plateau, the area is considered relatively low in potential for identifying the remains of the Former Central School. Besides, according to the 2007 Site Investigation Report, the 3rd Plateau is not suitable for further archaeological investigation because the stability of retaining walls would be inevitably affected and the tree roots at Hollywood Road would be severely damaged if excavation is carried out. Moreover, based on the 2007 Site Investigation Report, all the tiles, bricks and stones of the Shing Wong Temple were believed to be removed after a public land auction in 1877. The possibility of finding the Temple foundation under the fill materials of some 3 – 7m thick at the northwest portion of the Site is low.

Nevertheless, one trial pit (TTA4 as detailed in *Section 3.4.2.2* above) conducted for the GI works for the Project reviewed part of a granite slab feature in this Plateau. However, whether the revealed part of the granite slab feature was associated with the Former Central School Site is unknown as according to the plan of the Former Central School as presented in *Figure 4.1*, TTA4 falls outside the foundation plan of the Former Central School. The chance of identifying significant archaeological remains in this Plateau is considered low.

4.1.4 4th Plateau near Hollywood Road

Although a few features such as stone objects (structural parts of the staircase linking the 2nd and 4th Plateaux), U channel structure/features, and a rectangular granite slab were unearthed in the 4th Plateau, consistent stratigraphic deposits in test grids and the height of retaining walls identified during the 2007 Site Investigation and GI works demonstrate that the playground platform was built on the backfill materials, where potential of identifying remains will be low. Moreover, it is shown in *Figure 4.1* that no foundation remains of the Former Central School are expected to be found in the 4th Plateau. Even though the foundation of Shing Wong Temple might be located under the playground of the Former Central School in this Plateau, the exact location of Shing Wong Temple (Joss House, No. 10 Shing Wong Street) remains unknown, and even if there are any temple remains, they have probably been severely disturbed due to past development. The chance of finding its structure is thus regarded as low. Therefore, the 4th Plateau is regarded as low in archaeological potential within the Site.

4.1.5 Areas Underneath Block A and Block B & the JPC Building

The archaeological potential underneath Blocks A and B for identifying the remains of the Former Central School is considered very low as the construction of these two 7-storey buildings would require such deep foundations that previous remains should have mostly been destroyed. The construction of the existing JPC Building should have mostly destroyed any former building remains on the spot. Therefore the chance of identifying significance archaeological remains beneath the JPC Building is considered very low.

4.2 IMPACT ASSESSMENT

4.2.1 Works for the Project

The Project involves the conversion of the Site into a creative industries landmark in meeting modern day building requirements by carrying out essential structural, building and building services works, and conservation requirements while fulfilling its new functional purposes. The works under the Project are elaborated as follows:

- The two existing building blocks, Block A and Block B, previously served as Police Married Quarters, will be preserved, reinforced and refurbished. The original residential cells at the 1/F and G/F will be converted into shops and gallery, while those at 2/F and above will become studios for creative industries and ancillary facilities including six lodgings for visiting artists. The top floor of Block B will be demolished and replaced by a sky-lounge restaurant and an open roof deck;

- The two buildings blocks will be connected at 2/F to 4/F by an I-cube which is a fully enclosed function hall for event of creative industries. Between the two blocks at ground level is a central courtyard where

together with a canopy at 6/F will be provided for holding large-scale functional events;

- An UIA beneath the courtyard including facilities for displaying part of the building remains of the Former Central School foundation originally located on the Site will also be provided to meet public aspiration, manifest the significant history of the Former Central School, and to conserve the existing foundation remains in the ground;

- To improve the circulation for visitors, five passenger lifts and two additional staircases will be added on the Site. Footbridges connecting the 4th Plateau at the north to Block B and the Block A to Staunton Street at the south will also be provided;

- The existing JPC building shall be preserved for conversion into a restaurant; and

- Provision of underground utilities and landscaping works (detailed design for the ground works are not available in this stage).

The potential impact on archaeological resources mainly relates to ground works involved in the revitalization project, which include construction of pile caps and tie beams for the I-cube, UIA, passenger lifts, new staircases, underground utilities and landscaping works. The following sections discuss the ground works involved in this Project.

4.2.2 Construction Method of Pile Foundation

The locations of the 10 trial pits (i.e. TTA1 to TTA8, TTB1 and TTB4) for the Phase I GI work as described in *Section 3.4.2.2* are exactly the proposed works areas for the piling works (please refer to *Figure B in Annex B* for locations*)*. The piled foundation of the I-cube will be of friction mini-pile. The friction mini-pile for this Project is a type of pile in which a steel UC section is installed within a pre-bored hole formed into soil with a temporary steel casing with minimum internal diameter of 305 mm and then grouted with cement grout. The estimated pile length will be about 50m from the ground level. The pile will be constructed in accordance with the following sequences:

(a) The pile hole will be formed by drilling plant mount with drill rod and drill bit;

(b) Temporary steel casing with internal diameter of 305mm minimum will be used to stabilize the surrounding soil from existing ground level;

(c) Air to be used as the flushing medium to flush out the soil inside the steel casing during the drilling operation;

(d) After the pre-bored hole is formed, the steel UC section will be installed into the drillhole using a crane;

(e) After the installation of the steel section into the drillhole, cement grout will be used to fill the drillhole by tremie method;

(f) The casing will then be extracted in stages by hydraulics and then cut by flame cutting. In each stage, if the grout loss inside the casing is not significant, additional section of casing will be extracted, otherwise, further grouting of the pile will be carried out;

(g) The pile construction is completed when the full length of temporary casing is extracted;

(h) After the completion of the pile construction and pile loading test, open excavation of soil will be carried out down to the bottom level of the pile cap by excavator;

(i) Upon completion of the soil excavation, 50mm thick blinding layer will be applied on the pile cap founding level; and

(j) Reinforcement fixing and concreting works of the pile cap will be carried out and backfilling of soil and construction of ground floor slab will be followed subsequently.

Figure 4.2 is the schematic diagram illustrating the construction method of pile foundation.

4.2.3 Construction Method for the Proposed Underground Interpretation Area (UIA)

An UIA will be constructed as part of the revitalization scheme. A plan showing the indicative layouts of the UIA as well as the locations of the proposed works of pile caps and tie beams for I-cube, and passenger lift, are shown in *Figure 4.3*.

The perimeter walls of the UIA will be constructed by pipe pile walls. The installation method shall minimize the vibration effect and no adverse effect shall be induced to the adjacent foundations which are in form of shallow footings. After the construction of the perimeter wall by using the pipe pile walls, excavation works will be carried out down to founding level of the basement. Upon the completion of the excavation, R.C. slabs will be constructed at the bottom level of basement. The top floor of the UIA will be in the form of reinforced concrete construction and supported at the perimeter by pipe pile walls. Apart from the perimeter walls, part of the Former Central School remains will be enclosed by concrete retaining walls, whenever required.

Figure 4.4 displays the main areas potentially impacted by the construction of the UIA.

Stage 1

1a. Grouting Starts From Bottom of Pile With Pressure
1b. Grouting Fill Up the Whole Length of Pile

Stage 2

2a. Extract of Steel Casing
2b. Checking Grout Loss, Further Grouting If Necessary

Stage 3

3a. Repeating Extract of Steel Casing
3b. Checking Grout Loss, Further Grouting If Necessary

Stage 4

4a. Repeat Stage 3 Until All Steel Casing Extracted
4b. Grouting Process Finishes

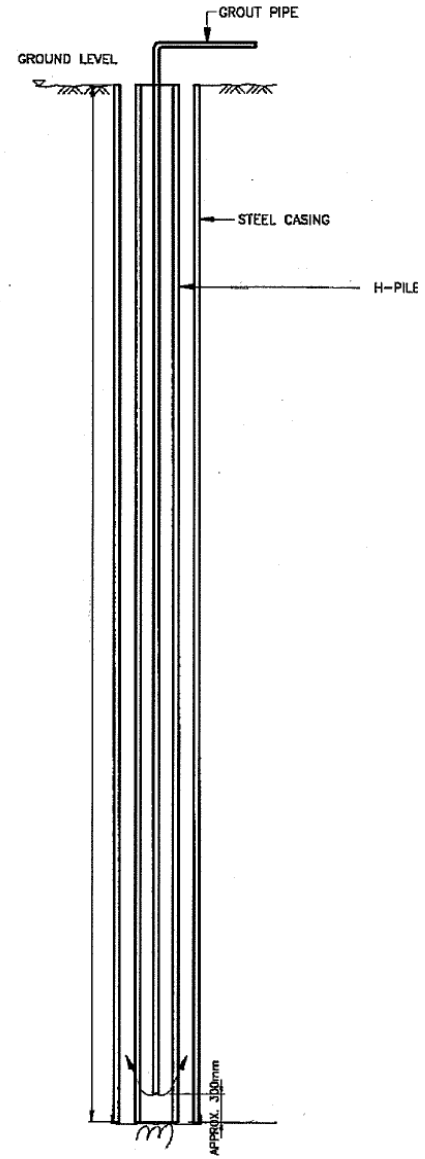

Figure 4.2 Stages and Diagram Showing Construction Method of Pile Foundation

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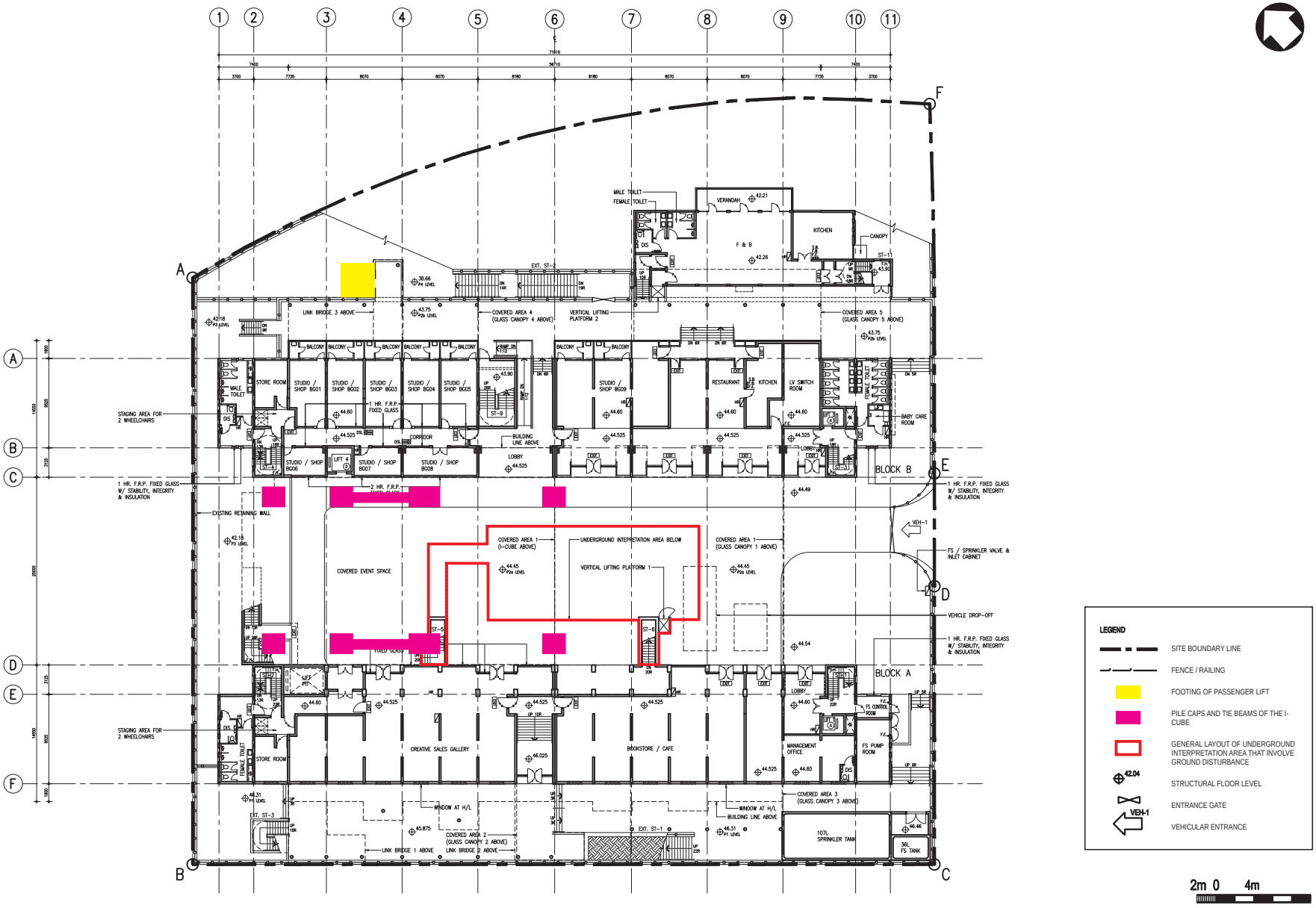

Figure 4.3

Ground Floor Plan showing General Layout of the Underground Interpretation Area that involve Ground Disturbance

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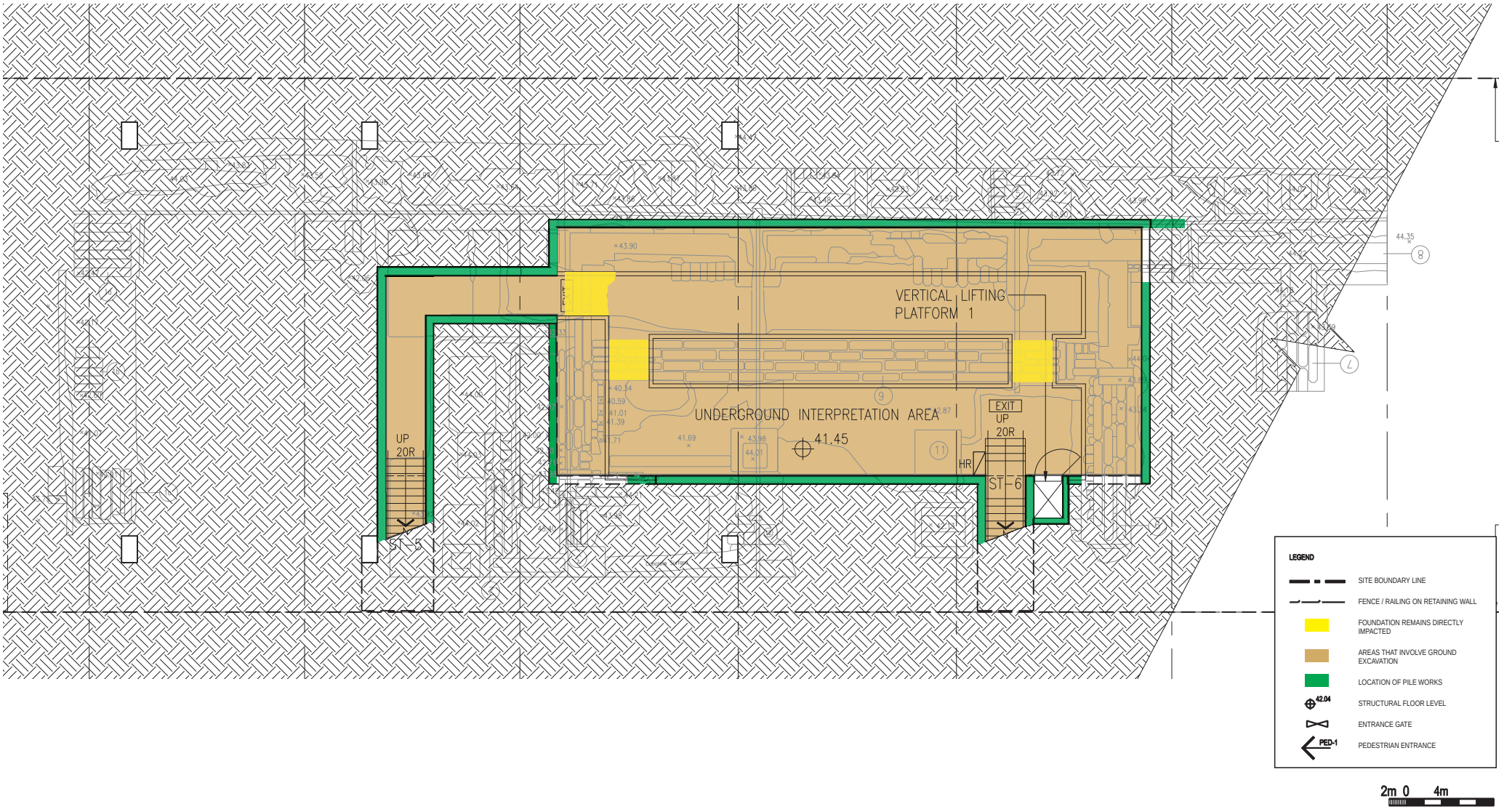

Figure 4.4

Lower Terrace Plan showing areas potentially impacted by the construction of the underground Interpretation Area

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4.2.4 Archaeological Impact Assessment

Construction Stage

The 2nd Plateau is where majority of the archaeological remains was found in the 2007 Site Investigation. It is considered having the highest archaeological value and best surviving condition within the Site as a number of features and finds were unearthed there. Most of the proposed revitalisation work of the Site will not impact on the underground remains in the 2nd Plateau except the proposed UIA and the proposed pile foundations work (see *Figure 4.3*).

The construction of the UIA on the 2nd Plateau may potentially impact on the unexcavated underground remains that may still survive on site and three small discrete areas of the identified remains. Among the three discrete areas, the extant remains within two of them are considered small scale (i.e. parts of Foundation No. 9) and the remaining one with mortar wall (i.e. northern part of Foundation No. 3) has been seriously disturbed by previous development. Identified remains potentially impacted are shown in *Figure 4.4* due to the excavation works involve for future access circulation in the UIA. Potential surviving unexcavated underground remains may also potentially impact where the pile works or access ways locate as shown in *Figure 4.4*. In addition to the above described works, excavation in the remaining areas within the UIA is required for access circulation and re-present of the remains for public appreciation.

Potential indirect impact due to construction work of the pile perimeter walls to the north of Foundation No. 8 may be a concern as ceramic traps associated with underground drainage nos. D3 and D4 (see *Figure 3.6*) are located in close proximity.

During the design process of the UIA, with the aim to displaying the Former Central School structural foundations in the UIA and conserving the existing structural foundations in the ground, a "base case" scheme was established by Government as outlined in the subsections 1.2.1, 4.2.2 /page nos. 9, 103, 105, 106, 109/artist's impression views 3&5, conceptual plan - G/F, diagrammatic section, of the Government's "Invitation for Proposal" document of the project to display the No. 9 shallow foundation identified by the 2007 Site Investigation, partly visualisable below a transparent glass cover situated in the courtyard and partly to be displayed in a multi-purpose room-cum-exhibition area that allows visitors to touch it or sit on directly. However, the scale is minimal with the extensive scale of foundation remains found in the 2007 archaeological investigation by AMO and thus the preceding scheme is difficult for visitors to experience extensive and close appreciation on the cultural significance of foundation remains in association with the Former Central School. The winning proposal of PMQ announced by the Government subsequently contained an enhanced "underground interpretation area (UIA)" scheme replacing the base scheme of displaying foundation remains and augmenting the interpretative means with organised guided tours, seminars and workshops with a view to developing a creative approach by allowing visitors to walk along a re-created corridor between the

underground foundation stones of the Former Central School building and to appreciate its archaeological remnants. Such a proposal will help promote the cultural characteristics of the district and has the potential to convert the site into an iconic landmark. As a result, a larger display area with more variety of foundation remains (such as Foundations Nos. 3, 6, 8, 9, 10, 11 and some red brick structures) was considered necessary. Therefore, the current UIA scheme (i.e. a larger scale of 230m² with more variety of structural features to be displayed) is put forward with the proposed design layout presented in *Figure 4.3*. It is considered the largest scale that requires no additional fire services to be in place with minimum potential impact on the structural foundations, yet at the same time, enable the maximum variety of foundations to be displayed for visitors to interpret the Former Central School Site.

The proposed construction method of the pile perimeter walls for the UIA at 2nd Plateau has adopted the construction method which minimizes the potential vibration effect on the underground remains. The adverse impact is kept to minimal. Furthermore, location of the pile perimeter walls construction were selected through careful review of the Former Central School layout as shown in *Figure 4.1* to minimise physical impact on the underground remains and it is located at area where no further foundation remains of the Former Central School is expected. Potential underground remains that may be unearthed from the impacted areas would likely be the filled materials with remains of flooring or non structural features that are similar to those discovered from the 2007 Site Investigation. In spite of the negligible contextual significance of the objects, it is considered worth preserving them by record for future research purposes.

Therefore, although adverse impact is identified, the impact on the foundation remains of the Former Central School is considered small in scale and the overall impact is considered minimal and acceptable with mitigation measures.

It should be noted that the construction of the UIA will provide beneficial impact to the general public to meet their aspiration and will manifest the cultural significance with *in situ* features displayed. Interpretations for understanding the cultural significance of the Former Central School will further be provided in the Project.

The pile caps and tie beams for I-cube will be located in the 2nd Plateau and 3rd Plateau as shown in *Figure 4.3*. Except the proposed pile caps TTA4 and TTA7 as shown in *Figure B* in *Annex B*, no foundation remains were reported to have been found from the remaining pile caps and tie beams locations and therefore no impact is anticipated. Nevertheless, granite slab and No. 12 foundation remains identified by AMO in 2007 were revealed in pile caps TTA4 and TTA7, respectively. Potential impact due to the construction of these pile caps may be a concern. As the foundation remains from TTA7 was identified due to field discrepancy, the impact is avoidable with mitigation measure. With regard to pile cap TTA4, as the granite slab is not considered the foundation remains of the Former Central School, the impact is considered acceptable with mitigation measures.

Apart from the construction of the UIA and the pile caps and tie beams for I-cube, other ground works that may involve soil excavation include the construction of passenger lifts, new staircases, underground utilities and landscaping works. In this stage of the design for the Project, detailed design for the mentioned ground works is not available. However, it is anticipated that a passenger lift will be placed in the 4th Plateau as indicated in *Figure 4.3*, and in order to avoid potential archaeological impact in the 2nd Plateau, the provision of underground utilities will likely be placed in the 1st and 4th Plateaux. Based on the currently available information regarding the ground works in the 1st, 3rd and 4th Plateaux, it is considered that potential impact on the surviving remains of the Former Central School due to the ground works may be a concern as remains associated with the Former Central School had been revealed from GI works. However, as potential to identify significant foundation remains of the Former Central School is considered very low through review of the old plan, the impact is considered acceptable with mitigation measures.

Operation Stage

The display of part of the foundation remains of the Former Central School in the UIA will provide beneficial impact as the work will arouse public 's interest and understanding of the cultural significance of the Former Central School and the Site. However, potential adverse impacts on the displayed in-situ foundation remains due to poor maintenance, weather impact such as sunlight and underground water movement may be a concern. The impact is considered acceptable with mitigation measures.

5 MITIGATION MEASURES

5.1 CONSTRUCTION STAGE

As foundation remains of the Former Central School and finds of archaeological interest were identified in the 2nd Plateau, in order to ensure any surviving remains of archaeological interest are collected and recorded, it is recommended that prior to any excavation work for the construction of the UIA at the 2nd Plateau, an archaeological investigation should be carried out to collect and record archaeological interest remains at all the impacted areas, which are unexcavated in 2007 Site Investigation and undisturbed by previous works relating to the PMQ.

With regard to the potential impact on the ceramic traps associated with underground drainage nos. D3 and D4 in close proximity to the proposed pile perimeter wall to the north of Foundation No. 8, it is recommended that archaeological watching brief be conducted during construction of the pile perimeter wall to the north of Foundation No. 8 within 5m from the ceramic traps associated with the underground drainage nos. D3 and D4 to ensure that these two features will not be impacted.

With regard to the three small discrete areas with potential underground foundation remains impacted as shown in *Figure 4.4*, it is recommended that the impacted features be collected and properly stored as much as practicable to allow future replacement, if necessary, and adjacent remains that may be indirectly impacted be well protected prior to new materials are added onto them. Full documentation (including photographic and video recording) should be conducted prior to, during and upon completion of the works at the impacted area to preserve the impacted remains for probable restoration in future.

Regarding pile cap TTA7, as the revealed foundation was due to field discrepancy, in order to avoid the potential impact on the Foundation No. 12 due to its close proximity to pile cap TTA7, it is recommended that the construction of pile cap TTA7 should include a work procedure that the precise location of TTA7 be excavated by manual labours for the first 0.5m under the monitoring of an archaeologist to ensure no foundation remains are located in TTA7 prior to the pile cap construction during construction phase.

As potential adverse impact is anticipated due to the construction of one of the proposed pile caps (TTA4) for I-cube construction beneath the 3rd Plateau, it is recommended that an archaeological watching brief be conducted to preserve the impacted granite slab by record during construction phase. As only part of the granite slab is located in TTA4, the coverage of the archaeological watching brief should include the whole granite slab that would partly be impacted. As no other ground works are proposed in the remaining area in 3rd Plateau, no mitigation measures is considered necessary.

An archaeological investigation should be conducted at the location of the proposed passenger lift at the 4th Plateau prior to its construction as it is located adjacent to T5 (see *Figure 3.5*) where the playground of the Former Central School and granite slabs and structural parts of staircase linking the 2nd and 4th Plateaux were unearthed in the 2007 Site Investigation.

As regards to other ground works areas that may involve excavation (including construction of passenger lifts, new staircases, underground utilities and landscaping works), no further detailed information (apart from that for the passenger lift proposed to be located at the 4th Plateau) is available at this stage. Therefore, detailed mitigation measures cannot be provided at present but it is recommended that other ground works areas that involve ground excavation in areas undisturbed by previous works relating to PMQ at the 1st, 3rd and 4th Plateaux, where former remains may still exist, an archaeological investigation or archaeological watching brief should be conducted. Subject to the detailed design of the works, an archaeological investigation or archaeological watching brief shall be devised in the Archaeological Action Plan.

The archaeological investigation or watching brief as mentioned above should be conducted by a qualified archaeologist who should obtain a licence under the *Antiquities and Monuments Ordinance.* Prior to licence application, an Archaeological Action Plan should be prepared to demonstrate the schedule, manpower, logistics, methodology and conservation works for the archaeological works. The archaeological action plan should be submitted by works agency to and approved by the AMO prior to fieldwork commencement.

To ensure all Site Staff are aware of the archaeological deposits in the Site, it is recommended that prior to commencement of soil excavation works during construction (in particular the UIA), the Construction Contractor should engage an archaeologist with competent knowledge of local history and archaeology respectively to provide an induction briefing as part of the environmental health and safety induction programme to all on-site staff (including administrative staff, foremen and workers from the construction contractor). The content of the induction briefing should include the introduction on common archaeological discoveries in Hong Kong and possible archaeological deposits that may be encountered by the on-site staff during excavation work as well as the communication plan and procedures required in case suspected archaeological deposits are identified. A set of the teaching materials with content details shall be forwarded to AMO for reference and record purpose. The Construction Contractor should ensure that the induction briefing is provided to all new on-site staff prior to their excavation work commencement. Detailed arrangement of the induction briefing should be elaborated in the Archaeological Action Plan.

As no archaeological impact is anticipated beneath Blocks A and B and the JPC building, no mitigation measures are required.

Prior to construction commencement, a conservation plan with construction sequence, method and temporary protection measures for the selected underground remains to be displayed in the UIA should be provided to AMO for agreement and approval. A conservation specialist with similar past experience should be employed to monitor the works to ensure the underground remains to be displayed are well protected during construction stage.

5.2 OPERATION STAGE

As potential adverse impact due to the display of in-situ foundation remains of the Former Central School has been identified, it is recommended that a long term maintenance plan be established by the operator (ie Musketeer Foundation) and agreed with the relevant authorities (e.g. AMO and Development Bureau, etc.) prior to the operation of the UIA and the agreed plan be implemented during the operation of the UIA. Regular audits should be conducted and a long term maintenance plan as part of the conservation management plan to be prepared by the operator (ie Musketeer Foundation) should be reviewed and revised when and where appropriate.

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6 CONSERVATION PROPOSAL AND CONSERVATION MANAGEMENT PLAN

6.1 CONSERVATION PROPOSAL AND CONSERVATION MANAGEMENT PLAN

The proposed revitalisation has taken into account the conservation guidelines as detailed in *Section 4* of the *Conservation Guidelines for the Former Married Quarters Site on Hollywood Road*, in particular *Item 6* of *Section 4.3 Character Defining Elements to be Preserved and Conservation Guidelines*.

6.1.1 *Conservation Proposal*

The conservation proposal in relation to the underground archaeological remains is to construct an UIA to present the cultural significance of the Former Central School. As part of the interpretation strategies, part of the *in situ* foundation remains and movable objects of archaeological interest discovered from the Site during previous investigations of the Site will be displayed to visitors or public to understand the cultural significant of the Site as an integrated revitalisation of the Project. An interpretation plan for the Site will be established by the operator (ie Musketeer) for relevant authority consideration and approval (e.g. AMO and Development Bureau, etc.).

6.2 CONSERVATION MANAGEMENT PLAN (CMP)

The following Conservation Policies and Guidelines are formulated to provide archaeological guiding principles for future conservation. Conservation Policies and Guidelines in relation to standing built heritage are addressed in Chapters 6 and 7 in Volume 1 of BHIA.

6.2.1 *Conservation Policy*

1) The original use of the Site was for education use (the former Central School). It is recommended that the proposed new uses include the education use as part of the future uses.

2) Underground remains are considered as one of the character defining elements of the Site, conservation and interpretation of the underground remains to present the cultural significance of the Former Central School should be taken into account for any future uses. It is recommended that an interpretation area with underground remains should be provided for interpreting the cultural significance of the Former Central School.

6.2.2 *Conservation Guidelines*

1) Character defining elements to be preserved in relation to the underground remains include fragments of cement flooring, layer of hard-core, underground drainages and ceramic pipes, foundation walls, mortar wall, white mortar wall and inked marks on granite

blocks, special finds and other remains excavated during AMO's archaeological investigation 2007 or still remain undiscovered;

2) The preserved remains should be integrated with the new development and public should be allowed to appreciate their significance. An interpretation plan for the Site, including the underground remains, for relevant authority's further consideration and approval (e.g. AMO and Development Bureau, etc.) should be prepared. Interpretation can be in the form of (but not restricted to) a centre or rooms of display for showing the remains and records of the Central School and the Site. Technical feasibility including long term management, maintenance and monitoring should be considered and addressed in the plan.

3) Disturbance to the underground remains may be permitted subject to AMO's approval and should be kept in the minimum. Any proposal to disturbance should be supplemented with justification to show the necessity of the disturbance, design alternatives to show the disturbance has been kept to the minimum extent and mitigation measure proposed.

4) Any future developments that involve soil excavation in the 2nd Plateau should be monitored by a qualified archaeologist to record underground surviving remains of the Site. If significant features are identified, AMO should be informed and appropriate mitigation measures should be agreed with AMO and be implemented.

6.2.3 Interpretation Plan

According to the *ICOMOS Charter* on the *Interpretation and Presentation of Cultural Heritage Sites* (2008), two of the objectives for interpretation and presentation of cultural heritage sites are to facilitate understanding and appreciation of cultural heritage sites and foster public awareness and engagement in the need for their protection and conservation; and to communicate the meaning of cultural heritage sites to a range of audiences through careful, documented recognition of significance, through accepted scientific and scholarly methods as well as from living cultural traditions.

However, revitalisation of any cultural heritage site for new uses will inevitably change the understanding of its historic use and this will certainly be the case for this Project. New uses will be found on the Site which makes the interpretation of the Site an essential part of maintaining the underground remains of the Site and providing a means for visitors and users to understand and appreciate its cultural significance. A full Interpretation Plan will be prepared during the detailed design stage of the Project with close reference to the ongoing conservation planning of the Project.

The Interpretive Plan is intended to outline initial interpretive strategies to relate, reveal and provoke. The Interpretive Plan therefore maps out an initial strategy to turn the principles of interpretation into a reality for this Site which shall include:

- Defining the objectives of the interpretation;
- Providing an overview of the context within which the interpretation takes place;
- Defining opportunities and constraints for interpretation on the Site;
- Exploring interpretive approaches;
- Laying down a messaging strategy;
- Expressing a mission statement for interpretation;
- Outlining implications for the Site of the interpretation; and
- Suggesting methods and media of interpretation.

Site Interpretation

The Site presents the opportunity to provide interpretation for the history of the Former Central School, education development in the early colonial period of Hong Kong and underground remains of colonial period in Hong Kong.

One of the elements of the proposed revitalisation is to promote public appreciation of the cultural significance of the Former Central School by proper site interpretation. This can be achieved through the construction and operation of the UIA with display of *in situ* foundation remains and finds discovered from the Site. The UIA could be used to tell the history, story and cultural heritage of the Site to visitors and public by display of *in situ* foundation remains, old photographs, maps, interpretive panels, historical objects and discovered artefacts for interpreting the history of the Former Central School.

The UIA will be open to public visitors during daytime hours. Besides, guided tours will be considered to be arranged to public or guests by appointments. The official opening hours should be agreed. Other activities will also be arranged for appreciation of the place, where appropriate, including an open day will also be held before the grand opening, as well as promotion of future uses.

Information of the story of the Former Central School can be provided in various forms such as pamphlets, electronic media, photograph prints or other small souvenir gifts for visitors.

It is also proposed to document the whole process of revitalization work of the Site for future interpretation material.

The full Interpretation Plan will be prepared by the project proponent for advance comment and agreement by the relevant authority (e.g. AMO and Development Bureau, etc.).

6.2.4 Maintenance Plan

The revitalisation of the Site will create the need for a different management and maintenance regime. Previously identified underground remains are preserved *in situ* on site without maintenance. A new maintenance regime will have to deal with underground remains to be displayed *in situ* for visitors and public to enjoy safely. There will also be a need to maintain the underground remains of the Site and to ensure that display of the remains in the UIA are carefully controlled, that monitoring, maintenance and repair work is carried out by professionals with proper specifications and that maintenance work is completed in a timely fashion. The overall maintenance of the Site will be undertaken by the operator (ie Musketeer Foundation) whilst during the Defects Liability Period, the overall maintenance of the Site will be undertaken by the ArchSD's Contractor. The maintenance work should be governed by well-recognised charters and guidelines. It is intended that a detailed maintenance plan will be prepared for use immediately following construction completion of the Project and that this will provide routine maintenance schedules with recommendations as to what tasks should be carried out weekly, monthly, annually, etc.

It is recommended that the maintenance plan should be reviewed annually by building management professionals, conservationists and professionals with thorough understanding of managing of archaeological remains conservation to ensure the execution of a proper maintenances programme to be commissioned by the operator and the Maintenance Plan shall include but not limited to:

- Identification and regular monitoring of fragile areas or areas;
- All maintenance work will respect the underground remains to preserve its authenticity; and
- Ensuring all the works are to be done by appropriate conservation professionals.

The Plan will be prepared by the project proponent for advance comment and agreement by the relevant authorities (e.g. AMO and Development Bureau, etc.). The maintenance plan shall be kept at the site office and made available to the users and professionals who are responsible for up-keeping and managing the changes of the Site. The maintenance and monitoring plan should be available upon the completion of construction works for UIA.

6.2.5 Management Plan

It is recommended that this Conservation Management Plan (CMP) together with an implementation programme indicating the critical stages and time frame of future implementation of management and maintenance as well as the interpretation programmes for the Site, will be prepared by the project proponent for advance comment and agreement by the relevant authorities (e.g. AMO and Development Bureau, etc.) prior to the operation of the Project.

The CMP should aim at guiding the long term protection of the underground remains in operation stage of the Project. The standard and requirements of maintenance, management and monitoring procedures for protection of the preserved and displayed underground remains will be documented in the CMP, which will be used as a control document for guiding the future up-keeping and maintenance as well as the management of the Site.

This CMP shall be reviewed and updated once a year regularly by the Conservation Specialist of this Project to be commissioned by the operator for incorporating any relevant requirements if appropriate. The CMP may also form part of the educational material and be displayed to the public as part of the interpretation strategies and be kept in the future UIA.

The management team shall include an underground remains conservation expert as part of the team to oversee the regular up-keeping, maintenance, repairs works for the underground remains and the UIA. The organization charts of the management team are shown in *Figures 6.1a* and *6.1b*. The frequency of CMP review and the structure of the management team to implement and uphold the CMP will be addressed in the CMP. Future interpretation and maintenance programme will also be covered in the CMP.

Recording and Documentation

All reports of conservation studies, conservation plans, site investigation records (including the 2007 Site Investigation conducted by AMO) associated with the underground remains prior to and during the construction work stages of this Project, and records of any future maintenance and repair works, should be documented and filed at the Site and made available to future users or professionals who are responsible for up-keeping the underground remains and the cultural significance of the Site. These reports should be made available on the operator's website in future while one copy should be deposited in the Reference Library of the Heritage Discovery Centre of the AMO. Details of any major maintenance and repairs should be documented before and after carrying out of such works for record. Documentation of the conservation process during the implementation stage will also be required.

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Organization Structure (Implementation Stage)

The Creative Quarters Management Company Limited (SPC)

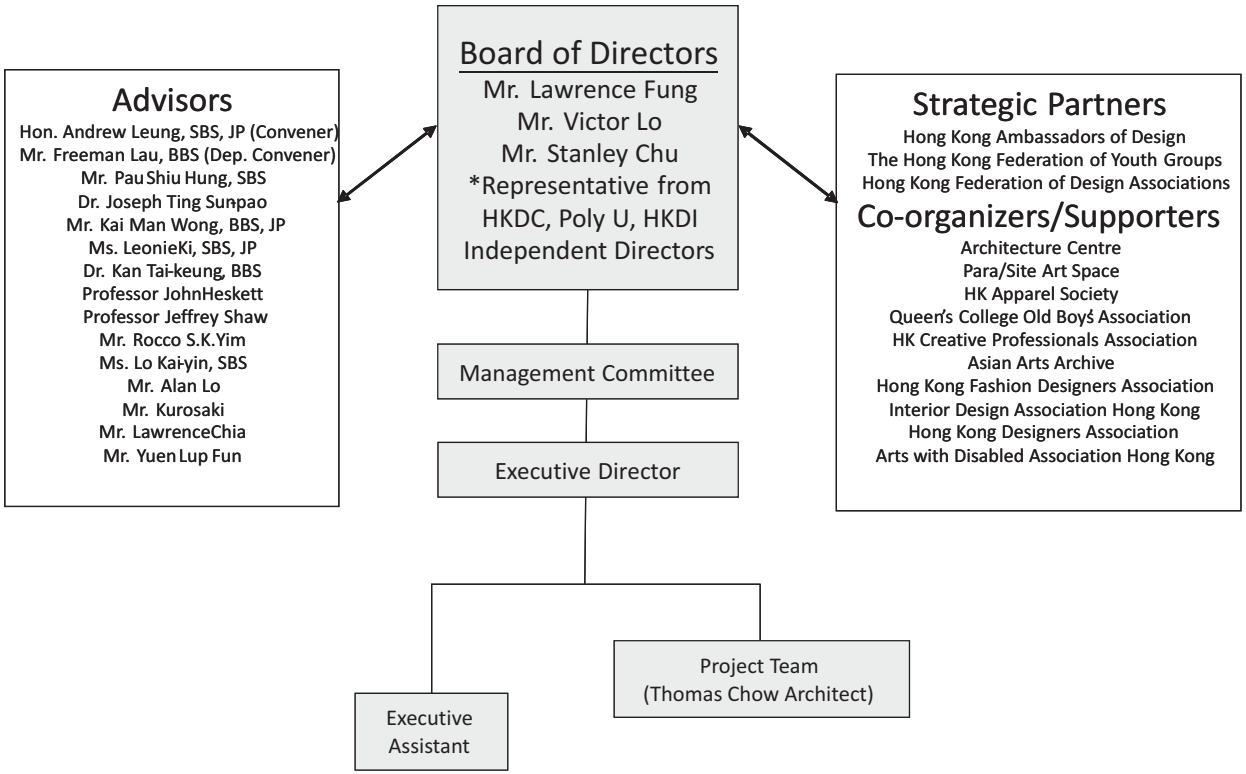


Figure 6.1a

Organization Structure (Implementation Stage)

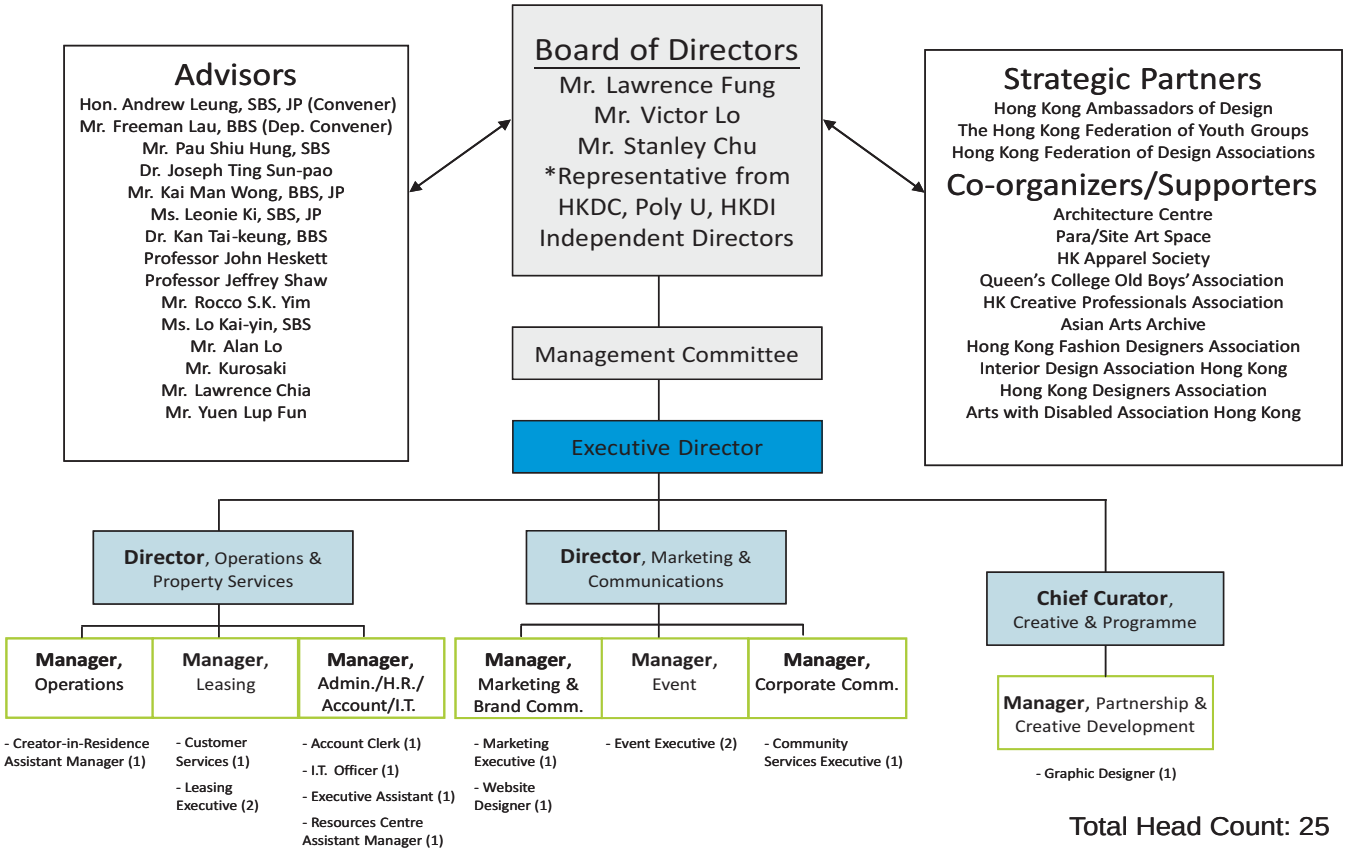
FILE: 0126759k
DATE: 25/02/2011

Environmental Resources Management

ERM

Organization Structure (Operational Stage)

The Creative Quarters Management Company Limited (SPC)



Total Head Count: 25

Figure 6.1b

Organization Structure (Operational Stage)

FILE: 0126759k1
DATE: 25/02/2011

Environmental Resources Management

ERM

7 CONCLUSIONS

The Chief Executive announced in his 2009-10 Policy Address to plan for the renovation of the Former Hollywood Road Police Married Quarters (the Site) into a creative industries landmark which affects the Former Central School Site, which is a Site of Archaeological Interest listed by the AMO, an HIA is required to assess the cultural heritage impacts due to the implementation of this capital works project.

Musketeers Education and Culture Charitable Foundation Limited (Musketeers Foundation) was selected as the future operator of the Site and the Centre for Architectural Heritage Research Centre (CAHR) has been commissioned by the Architectural Services Department (ArchSD) to conduct a HIA that included a Built Heritage Impact Assessment (BHIA) and Archaeological Impact Assessment (AIA), for Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark in the end of 2010. ERM-Hong Kong Limited, as the sub-consultant of the CAHR, covered the scope for the AIA which is presented in this report.

The Site, also known as Former Central School, has been listed as a Site of Archaeological Interest after the site investigation in 2007 conducted by AMO, and it has been rated as Grade 3 Historic Building in November 2010. The proposed works for the Project involve preserving two existing buildings, Block A and Block B and the existing Junior Police Call (JPC) Clubhouse, and transform them to provide facilities for creative industries, heritage conservation and provision of public open space uses. It has been proposed that Blocks A and B will be connected by an I-cube for events of creative industries; the existing JPC Clubhouse will be transformed to a restaurant; and an underground interpretation area (UIA) beneath the courtyard between Blocks A and B will be constructed for meeting public aspiration of displaying foundation remains and objects of archaeological interest in association with the Former Central School and manifesting the culturally significant history of the Former Central School which had been sit on the site.

Desktop review supplemented by GI works findings identified underground remains unearthed from the Site which attributed to the original foundation remains of the Former Central School building including fragments of cement flooring, layer of hard-core, underground drainages, foundation walls, hard surfaces and inked marks on granite blocks as well as various types of finds. It was expected that 40% of the foundation of the Former Central School still remain and concentrated to be located under the 2nd Plateau and therefore potential to identify further foundation remains of the Former Central School or objects of archaeological interest in the unexcavated and undisturbed areas within the 2nd plateau still exist, but it is also anticipated that some of them are already severely disturbed by the construction of the Former Police Married Quarters in 1950 within the Site outside the 2nd Plateau area.

With the aim to displaying the Former Central School structural foundations in the UIA and conserving the existing structural foundations in the ground, a "base case" scheme was established by the Government as outlined in the

Government's "Invitation for Proposal" document of the project to display the No. 9 shallow foundation identified by the 2007 Site Investigation, partly visualisable below a transparent glass cover situated in the courtyard and partly to be displayed in a multi-purpose room-cum-exhibition area that allows visitors to touch it or sit on directly. However, the scale is minimal with the extensive scale of foundation remains found in the 2007 archaeological investigation by AMO and thus the preceding scheme is difficult for visitors to experience extensive and close appreciation on the cultural significance of foundation remains in association with the Former Central School. The winning proposal of PMQ announced by the Government subsequently contained an enhanced "underground interpretation area (UIA)" scheme replacing the base scheme of displaying foundation remains and augmenting the interpretative means with organised guided tours, seminars and workshops with a view to developing a creative approach by allowing visitors to walk along a re-created corridor between the underground foundation stones of the former Central School building and to appreciate its archaeological remnants. Such a proposal will help promote the cultural characteristics of the district and has the potential to convert the site into an iconic landmark. As a result, a larger display area with more variety of foundation remains (such as Foundations No. 3, 6, 8, 9, 10, 11 and some red brick structures) was considered necessary. Therefore, the current UIA scheme (i.e. a larger scale of 230m^2 with more variety of structural features to be displayed) is put forward. It is considered the largest scale that requires no additional fire services to be in place with minimum potential impact on the structural foundations, yet in the same time, enable the maximum variety of foundations to be displayed for visitors to interpret the Former Central School Site.

Due to the construction of the UIA in the study area where potential impact has been identified, an archaeological investigation has been recommended to be implemented prior to construction in accordance with an action plan to be submitted by works agency to and approved by AMO in the concerned areas following the administrative mechanism established for Sites of Archeological Interest to preserve the impacted, undisturbed and unexcavated areas with archaeological interest as appropriate.

Three small discrete areas with underground foundation remains are potentially impacted by the construction of access way of the UIA. However, while the extant remains within two of the impacted areas are considered small scale (i.e. parts of Foundation No. 9), the remaining one with mortar wall (i.e. northern part of Foundation No. 3) has been seriously disturbed by previous development. Therefore, the impact is considered acceptable. It has been recommended that the impacted remains be collected and properly stored as much as practicable to allow future replacement and adjacent remains that may be indirectly impacted should also be well protected prior to new materials added onto them and full documentation (including photographic and video recording) should be conducted prior to, during and upon completion of the works at the impacted area to preserve the impacted remains for probable restoration in future.

Archaeological watching brief has also been recommended during construction stage to ensure concerned areas (including the ceramic traps associated with underground drainage nos. D3 and D4 adjacent to the proposed pile perimeter walls for the UIA, the proposed pile caps TTA4 and TTA7) are monitored to avoid and minimise potential impact and details of the archaeological watching brief shall be devised in the Archaeological Action Plan.

Fragmented features or structures had also been identified in the 1st, 3rd and 4th Plateaux probably attributed to the Former Central School but partly destroyed by the past development on site and therefore considered to have relatively low significance. Therefore, although construction of a passenger lift in the 4th Plateau and underground utilities likely to be located in the 1st and 4th Plateaux and landscape works may be located in these Plateaux are proposed, potential impact is anticipated but considered acceptable with mitigation measure. As detail design for these ground works are not available in this stage, precise mitigation measure cannot be provided but it is recommended that other ground works areas that involve ground excavation in areas undisturbed by previous works relating to PMQ at the 1st, 3rd and 4th Plateaux, where former remains may still exist, an archaeological investigation or archaeological watching brief should be conducted. Subject to the detailed design of the works, an archaeological investigation or archaeological watching brief shall be devised in the Archaeological Action Plan.

In order to ensure Site Staff are aware of the archaeological deposits in the Site, an induction briefing has been recommended to be provided to all on-site staff briefing on the possible discovery that may be encountered and a communication plan and procedures be in place during construction stage so that appropriate action could be taken if suspected archaeological deposits are identified.

It should also be noted that the underground remains in the Site have been considerably disturbed. With proper implementation of mitigation measures and conservation works, the proposed UIA displaying optimal foundation remains is considered an appropriate and beneficial option for the future revitalisation of the Site.

Appropriate conservation policies, conservation guidelines, interpretation, maintenance and management plan are presented in the CMP for the Project to control and manage the change of the Site.

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Map and Photo

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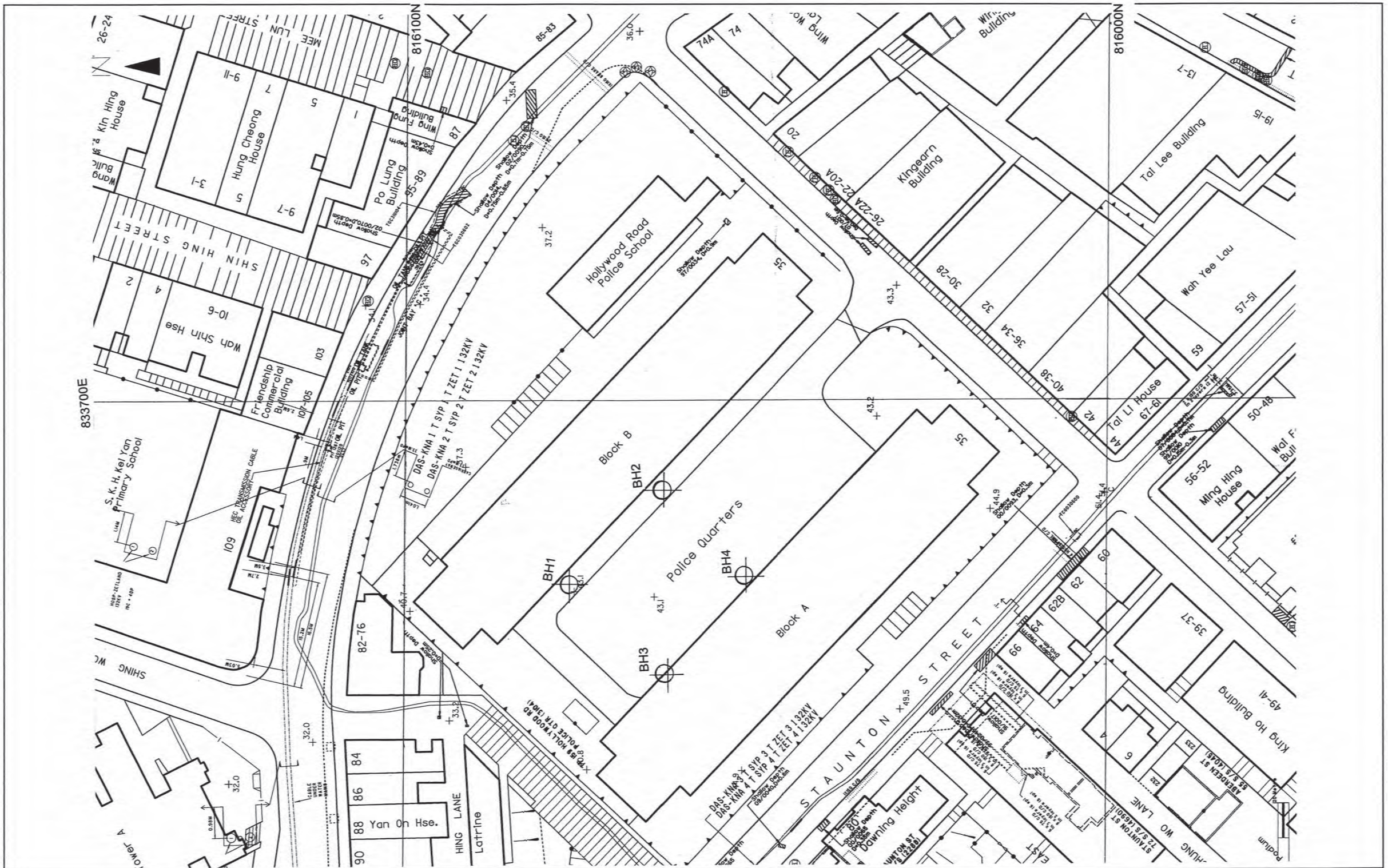
Annex A

Location Plan and Drill Hole Records for the Four Drill Holes of Phase I Ground Investigation Works



GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD	**LOCATION**	**PWP Item No. 400IO -Transformation of the Former Police Married Quarters Site on the Hollywood Road into a Creative Industries Landmark (Additional Works) Hong Kong**		
	DATE: January 2011	GROUND INVESTIGATION		LEGENDS: Drillhole ⊕
	SCALE: 1:500	CONTRACT NO. TC T323	WORK ORDER NO. ASD 011353	

GEOTECHNICS & CONCRETE ENGG. (H.K.) LTD.

GROUND INVESTIGATION DEPARTMENT

HOLE NO. **BH1**

SHEET 1 OF 7

DRILLHOLE RECORD

CONTRACT NO. TC T323

PROJECT **PWP Item No. 400IO - Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark (Additional Works)**

METHOD	**Rotary Cored**	CO-ORDINATES **E 833673.60**	WORKS ORDER NO. **ASD 011353**
MACHINE & NO.	**DR112**	**N 816076.45**	DATE FROM **29/11/2010** TO **06/12/2010**
FLUSHING MEDIUM	**Water**	ORIENTATION **Vertical**	GROUND LEVEL **44.44** mPD

Drilling Progress	Casing size	Water level (m) & Time	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
0 29/11/2010	SX	08:00						A B C D INSPECTION PIT	44.44	0.00			Brown (7.5YR 5/4) spotted white, clayey silty fine to coarse SAND with some angular fine to coarse gravel sized moderately decomposed granite and concrete fragments. (FILL)
1										0.50			
										1.00			
										1.50			
2 29/11/2010		Dry at 18:00							42.44	2.00			
30/11/2010		Dry at 08:00					1,1 1,1,1,1 N=4	1 2					Very loose to loose, reddish yellow (5YR 7/8) spotted white, clayey silty fine to coarse SAND with some angular fine to medium gravel sized moderately decomposed granite and quartz fragments. (FILL)
3										2.45			
4									40.44	4.00			
							6,5 4,3,3,2 N=12	3 4		4.45			Medium dense, yellowish red (5YR 5/8) spotted white, clayey silty fine to coarse SAND with some angular fine to medium gravel sized moderately decomposed granite fragments. (FILL)
5													
6									38.44	6.00			
							4,5 7,4,3,3 N=17	5		6.45			Medium dense, dark brownish grey (7.5YR 5/2) spotted white, sandy angular medium to coarse GRAVEL sized moderately decomposed granite and brick fragments. (FILL)
7													
8	SX 8.00								36.44	8.00			
	PX	0.95m at 18:00					4,11 12,8,10,13 N=43	6 7		8.45			Very stiff, yellowish red (5YR 3/8) spotted white, sandy clayey SILT with some subangular fine to medium gravel sized moderately decomposed tuff and quartz fragments. (COLLUVIUM)
30/11/2010 02/12/2010		7.06m at 08:00											
9													
10									34.44	10.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- SPT LINER SAMPLE
- U76 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- PISTON SAMPLE
- WATER SAMPLE
- PIEZOMETER TIP
- STANDPIPE
- STANDARD PENETRATION TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST

LOGGED **Y.K. Lee**

DATE **07/12/2010**

CHECKED **Tom Lo**

DATE **08/12/2010**

REMARKS

GEOTECHNICS & CONCRETE ENGG. (H.K.) LTD.

GROUND INVESTIGATION DEPARTMENT

HOLE NO. **BH1**

SHEET **2** OF **7**

DRILLHOLE RECORD

CONTRACT NO. TC T323

PROJECT **PWP Item No. 400IO - Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark (Additional Works)**

METHOD	**Rotary Cored**	CO-ORDINATES **E 833673.60**	WORKS ORDER NO. **ASD 011353**
MACHINE & NO.	**DR112**	**N 816076.45**	DATE FROM **29/11/2010** TO **06/12/2010**
FLUSHING MEDIUM	**Water**	ORIENTATION **Vertical**	GROUND LEVEL **44.44** mPD

Drilling Progress	Casing size	Water level (m) & Time	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
10	PX						12,24 33,55,76,36/15mm (200blls/240mm) N>200	8 9		10.00 10.39			Very dense, greyish brown (2.5Y 5/2) spotted white, silty fine to medium SAND with some angular fine to medium gravel sized highly decomposed granite fragments. (COLLUVIUM)
11													
12							2,2 4,5,5,7 N=21	10 11	32.44	12.00 12.45			Stiff, red (7.5Y 4/6) spotted white, sandy clayey SILT with much subangular coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
13													
14							5,6 6,8,10,12 N=36	12 13	30.44	14.00 14.45		V	Extremely weak, pinkish red (7.5Y 4/6) spotted white, completely decomposed, medium grained GRANITE. (Slightly clayey very silty fine to coarse SAND)
15													
16							4,4 5,6,8,11 N=30	14 15		16.00 16.45			
17													
18							4,5 5,6,8,11 N=30	16 17		18.00 18.45			
19													
20										20.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- SPT LINER SAMPLE
- U76 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- PISTON SAMPLE
- WATER SAMPLE
- PIEZOMETER TIP
- STANDPIPE
- STANDARD PENETRATION TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST

LOGGED **Y.K. Lee**

DATE **07/12/2010**

CHECKED **Tom Lo**

DATE **08/12/2010**

REMARKS

GEOTECHNICS & CONCRETE ENGG. (H.K.) LTD.

GROUND INVESTIGATION DEPARTMENT

HOLE NO. **BH2**

SHEET 1 OF 7

DRILLHOLE RECORD

CONTRACT NO. TC T323

PROJECT **PWP Item No. 400IO - Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark (Additional Works)**

METHOD	**Rotary Cored**	CO-ORDINATES **E 833687.10**	WORKS ORDER NO. **ASD 011353**
MACHINE & NO.	**DR114**	**N 816063.67**	DATE FROM **04/12/2010** TO **09/12/2010**
FLUSHING MEDIUM	**Water**	ORIENTATION **Vertical**	GROUND LEVEL **44.30** mPD

Drilling Progress	Casing size	Water level (m) & Time	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
0 04/12/2010	SX	08:00							44.30	0.00			Brownish red (5YR 5/8) spotted white, clayey silty fine to coarse SAND with some angular fine to coarse gravel sized highly decomposed granite and concrete fragments. (FILL)
1								A B C INSPECTION PIT		0.50 1.00 1.50			
2 04/12/2010		Dry at 18:00						D	42.30	2.00			
06/12/2010		Dry at 08:00					1,1 1,1,1,2 N=5	1 2		2.45			Firm, reddish brown (5YR 5/4) spotted white, sandy clayey SILT with some angular fine to medium gravel sized highly decomposed tuff fragments. (FILL)
			72						41.70	2.60			
									41.50	2.80			Greyish brown (2.5Y 5/2) spotted white, angular COBBLE with some medium to coarse gravel sized moderately decomposed tuff and brick fragments. (FILL)
3								T2IOI	41.20	3.10			Stiff, yellowish red (5YR 5/8) spotted and mottled dark red, sandy clayey SILT with some subangular fine to coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
4							1,1 1,2,2,3 N=8	3 4		4.00 4.45			Firm, reddish brown (5YR 5/4) spotted and mottled light grey, sandy clayey SILT with some subangular fine to coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
5													
6	SX 6.00 PX	2.92m at 18:00					2,6 6,4,10,10 N=30	5	38.30	6.00			Very stiff, red (2.5YR 4/8) spotted white, sandy clayey SILT with some fine to medium gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
06/12/2010 07/12/2010		5.81m at 08:00	89					6 T2IOI	37.80	6.50			Greyish brown (2.5Y 5/2), subangular BOULDER with some cobble and coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
7									37.20	7.10			Stiff, brownish yellow (10YR 6/8) spotted and mottled light yellow, sandy clayey SILT with some subangular fine to coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
									36.90	7.40			Very stiff, reddish yellow (5YR 7/8) spotted and mottled light grey, sandy clayey SILT with some subangular fine to coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
8							3,7 7,8,11,11 N=37	7 8		8.00 8.45			
9													
10										10.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- SPT LINER SAMPLE
- U76 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- PISTON SAMPLE
- WATER SAMPLE
- PIEZOMETER TIP
- STANDPIPE
- STANDARD PENETRATION TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST

LOGGED **Y.K. Lee**

DATE **10/12/2010**

CHECKED **Tom Lo**

DATE **11/12/2010**

REMARKS

GEOTECHNICS & CONCRETE ENGG. (H.K.) LTD.

GROUND INVESTIGATION DEPARTMENT

HOLE NO. **BH2**

SHEET **2** OF **7**

DRILLHOLE RECORD

CONTRACT NO. TC T323

PROJECT **PWP Item No. 400IO - Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark (Additional Works)**

METHOD	**Rotary Cored**	CO-ORDINATES **E 833687.10**	WORKS ORDER NO. **ASD 011353**
MACHINE & NO.	**DR114**	**N 816063.67**	DATE FROM **04/12/2010** TO **09/12/2010**
FLUSHING MEDIUM	**Water**	ORIENTATION **Vertical**	GROUND LEVEL **44.30** mPD

Drilling Progress	Casing size	Water level (m) & Time	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
	PX						1,2 6,7,10,10 N=33	9 10		10.00 10.45			See sheet 1 of 7 for details.
							6,8 10,12,8,6 N=36	11 12	32.30	12.00 12.45			Very stiff, yellowish red (5YR 5/8) spotted red light grey, sandy clayey SILT with subangular fine to coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
							4,7 8,6,4,4 N=22	13 14		14.00 14.45			
							2,3 4,5,7,10 N=26	15 16	28.30	16.00 16.45		V	Extremely weak, purplish red (7.5Y 4/6) spotted white, completely decomposed, medium grained GRANITE. (Silty fine to coarse SAND)
							2,2 3,4,4,6 N=17	17 18		18.00 18.45			
										20.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- SPT LINER SAMPLE
- U76 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- PISTON SAMPLE
- WATER SAMPLE
- PIEZOMETER TIP
- STANDPIPE
- STANDARD PENETRATION TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST

LOGGED **Y.K. Lee**

DATE **10/12/2010**

CHECKED **Tom Lo**

DATE **11/12/2010**

REMARKS

GEOTECHNICS & CONCRETE ENGG. (H.K.) LTD.

GROUND INVESTIGATION DEPARTMENT

HOLE NO. **BH3**

SHEET 1 OF 7

DRILLHOLE RECORD

CONTRACT NO. TC T323

PROJECT **PWP Item No. 400IO - Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark (Additional Works)**

METHOD	**Rotary Cored**	CO-ORDINATES **E 833662.30**	WORKS ORDER NO. **ASD 011353**
MACHINE & NO.	**DR128**	**N 816062.80**	DATE FROM **29/11/2010** TO **06/12/2010**
FLUSHING MEDIUM	**Water**	ORIENTATION **Vertical**	GROUND LEVEL **44.43** mPD

Drilling Progress	Casing size	Water level (m) & Time	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
29/11/2010	SX	08:00						A INSPECTION PIT	44.43	0.00			Reddish brown (5YR 5/4) spotted white, clayey very silty fine to coarse SAND with some angular coarse gravel sized concrete fragments. (FILL)
		Dry at 18:00						B	43.43	0.50			
29/11/2010								C	43.13	1.00			Yellowish red (5YR 5/8) spotted white, clayey silty fine to coarse SAND with much angular fine to coarse gravel sized moderately decomposed granite and concrete fragments. (FILL)
30/11/2010		Dry at 08:00	93					T2IOI		1.30			Pinkish grey (7.5R 7/1), locally light yellowish brown spotted white, angular BOULDER with some cobble and medium to coarse gravel sized slightly decomposed granite and some moderately decomposed granite and tuff, occasional concrete and brick fragments. (FILL)
			94					T2IOI		2.70			From 1.30m to 1.90m, 2.07m to 2.70 and 2.92m to 3.78m : Boulder of slightly decomposed granite.
			88					T2IOI		3.50			
30/11/2010		Dry at 18:00						1	40.43	4.00			
01/12/2010		Dry at 08:00					8,7 6,6,4,5 N=21	2		4.45			Stiff, yellowish red (5YR 5/8) spotted white, sandy clayey SILT with some subangular fine to medium gravel sized moderately decomposed tuff and quartz fragments. (COLLUVIUM)
	SX 6.00 PX												
		4.70m at 18:00					4,4 5,6,6,8 N=25	3		6.00			
01/12/2010								4		6.45			
02/12/2010		6.00m at 08:00											
									36.43	8.00			
							2,2 2,2,3,4 N=11	5					Firm, red (2.5YR 4/8) spotted white, sandy clayey SILT with some subangular fine to medium gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
								6		8.45			
									34.46	9.97			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- SPT LINER SAMPLE
- U76 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- PISTON SAMPLE
- WATER SAMPLE
- PIEZOMETER TIP
- STANDPIPE
- STANDARD PENETRATION TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST

LOGGED **Y.K. Lee**

DATE **07/12/2010**

CHECKED **Tom Lo**

DATE **08/12/2010**

REMARKS

GEOTECHNICS & CONCRETE ENGG. (H.K.) LTD.

GROUND INVESTIGATION DEPARTMENT

HOLE NO. **BH3**

SHEET **2** OF **7**

DRILLHOLE RECORD

CONTRACT NO. TC T323

PROJECT **PWP Item No. 400IO - Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark (Additional Works)**

METHOD	**Rotary Cored**	CO-ORDINATES **E 833662.30** **N 816062.80**	WORKS ORDER NO. **ASD 011353**
MACHINE & NO.	**DR128**		DATE FROM **29/11/2010** TO **06/12/2010**
FLUSHING MEDIUM	**Water**	ORIENTATION **Vertical**	GROUND LEVEL **44.43** mPD

Drilling Progress	Casing size	Water level (m) & Time	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
										10.00			
	PX		57					T2IOI					Brownish grey (10YR 5/2) spotted white, subangular COBBLE with some coarse gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
							3,3 3,4,5,5 N=17	7	33.93	10.50		V	
11								8		10.95			Extremely weak, red (2.5YR 4/8) spotted white, completely decomposed, medium grained GRANITE. (Slightly silty fine to coarse SAND)
12													
							4,5 5,6,6,6 N=23	9	31.93	12.50		V	Extremely weak, purplish red (7.5YR 4/6) spotted white, completely decomposed, medium grained GRANITE. (Slightly silty fine to coarse SAND)
13								10		12.95			
14													
							2,3 3,3,4,6 N=16	11		14.50			
15								12		14.95			
16													
							3,3 3,3,4,7 N=17	13		16.50			
17								14		16.95			
18													
							3,4 5,5,5,7 N=22	15		18.50			
19								16		18.95			
20													

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- SPT LINER SAMPLE
- U76 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- PISTON SAMPLE
- WATER SAMPLE
- PIEZOMETER TIP
- STANDPIPE
- STANDARD PENETRATION TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST

LOGGED **Y.K. Lee**

DATE **07/12/2010**

CHECKED **Tom Lo**

DATE **08/12/2010**

REMARKS

GEOTECHNICS & CONCRETE ENGG. (H.K.) LTD.

GROUND INVESTIGATION DEPARTMENT

HOLE NO. **BH4**

SHEET 1 OF 7

DRILLHOLE RECORD

CONTRACT NO. TC T323

PROJECT **PWP Item No. 400IO - Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark (Additional Works)**

METHOD	**Rotary Cored**	CO-ORDINATES **E 833674.88**	WORKS ORDER NO. **ASD 011353**
MACHINE & NO.	**DR129**	**N 816051.54**	DATE FROM **04/12/2010** TO **09/12/2010**
FLUSHING MEDIUM	**Water**	ORIENTATION **Vertical**	GROUND LEVEL **44.44** mPD

Drilling Progress	Casing size	Water level (m) & Time	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
0 04/12/2010	SX	08:00						A INSPECTION PIT	44.44	0.00			Greyish brown (2.5Y 5/2) spotted white, silty fine to coarse SAND with some angular fine to coarse gravel sized moderately decomposed tuff fragments. (FILL)
								B	43.44	0.50 / 1.00			Reddish brown (5YR 5/4) spotted white, silty fine to coarse SAND with some angular fine to coarse gravel sized moderately decomposed tuff fragments. (FILL)
		Dry at 18:00						C		1.50			
2 04/12/2010								D	42.44	2.00			Loose, greyish brown (2.5Y 5/2) spotted white, slightly clayey silty fine to coarse SAND with some angular fine to coarse gravel sized moderately decomposed tuff fragments. (FILL)
06/12/2010		Dry at 08:00					1,1 2,1,2,2 N=7	1					
								2		2.45			
								3	40.44	4.00			Stiff, pinkish red (7.5Y 4/6) spotted and mottled light yellow, sandy clayey SILT with some subangular fine to medium gravel sized moderately decomposed tuff fragments. (COLLUVIUM)
							2,2 4,5,8,8 N=25	4		4.45			
								5		6.00			
							2,3 4,10,15,16 N=45	6		6.45			
								7	36.44	8.00		V	Extremely weak, reddish yellow (5YR 7/8) spotted white, completely decomposed, medium grained GRANITE. (Slightly clayey silty fine to coarse SAND)
							2,4 4,3,3,5 N=15	8		8.45			
10									34.44	10.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- SPT LINER SAMPLE
- U76 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- PISTON SAMPLE
- WATER SAMPLE
- PIEZOMETER TIP
- STANDPIPE
- STANDARD PENETRATION TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST

LOGGED **Y.K. Lee**

DATE **10/12/2010**

CHECKED **Tom Lo**

DATE **11/12/2010**

REMARKS

Annex B

Location Plan and Photographic Records for the Ten Trial Pits of Phase I Ground Investigation Works

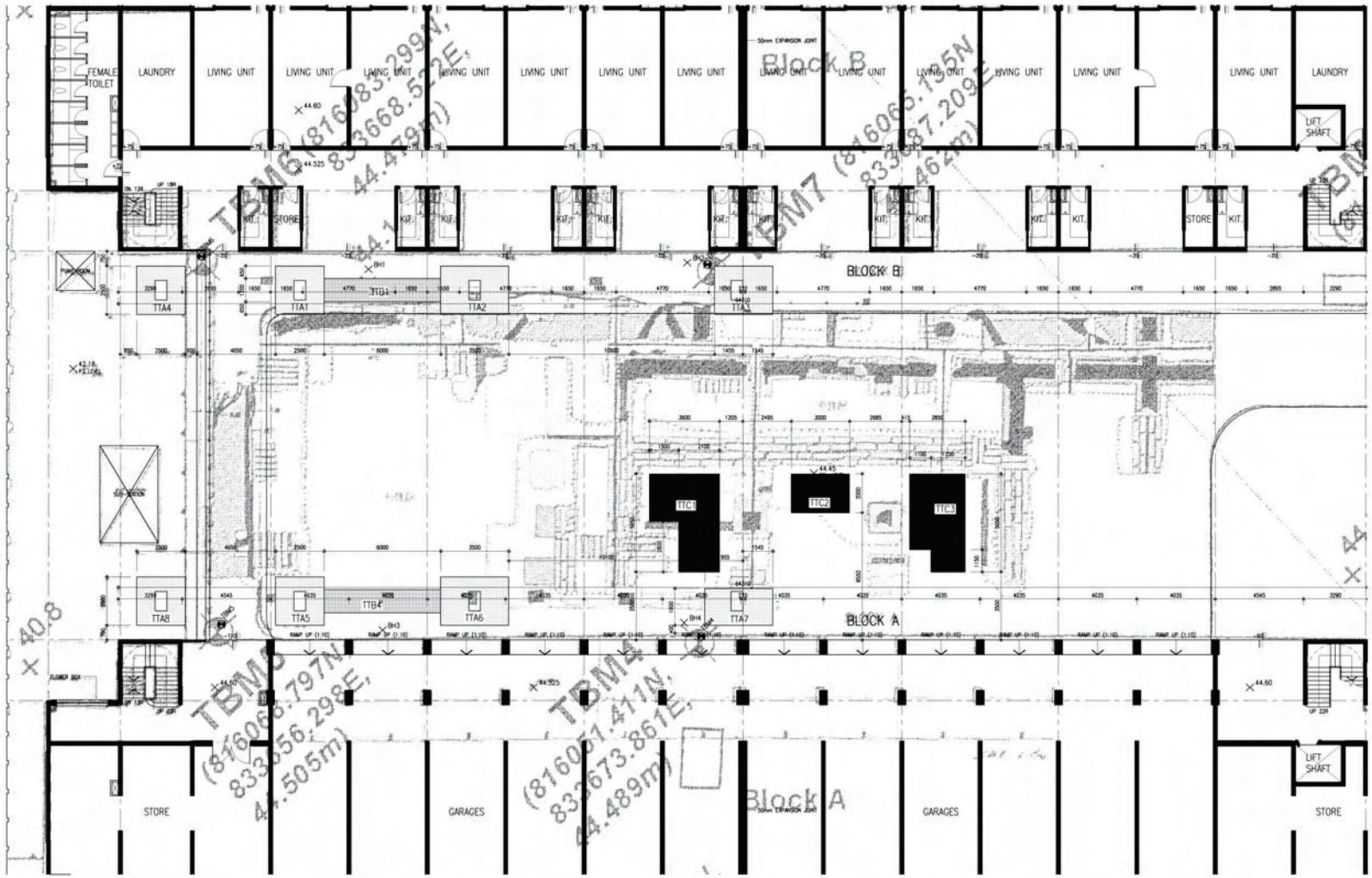


Figure B

Location of Ten Trial Pits (TTA1 - TTA8, TTB1 & TTB4) in Phase I GI Work

FILE: 0126759e1
DATE: 18/01/2011

Environmental Resources Management

ERM

TTA1

TTA2

TTA3

TTA4 with granite slab by the southwest wall

TTA5

TTA6

TTA7 exposed the foundation remains identified by AMO in 2007

TTA8

TTB1

TTB4

Annex C

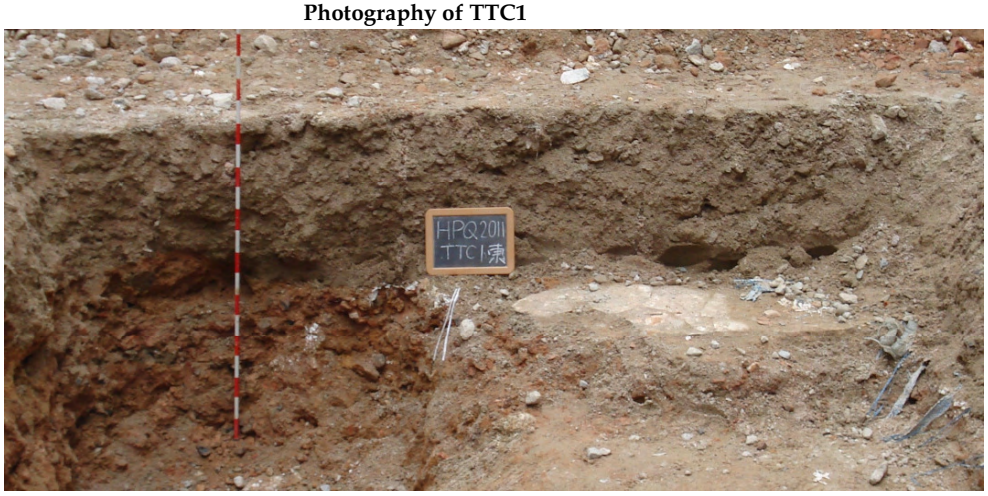
Findings of Phase II Ground Investigation Works

Trial Pit Record

Location	PMQ	**Site (Site Code)**	Former Police Married Quarters at Hollywood Road (HPQ2011)	**Trial Pit No.**	**TTC1**
Trial Pit Coordinate	E833670.846	N816064.435	**Trial Pit Measurement**	2.2m x 3.2m x 1m	
Digging Method	Hand Digging		**Ground Level**	44.35mPD - 44.42mPD	

Photography of TTC1

Eastern Section

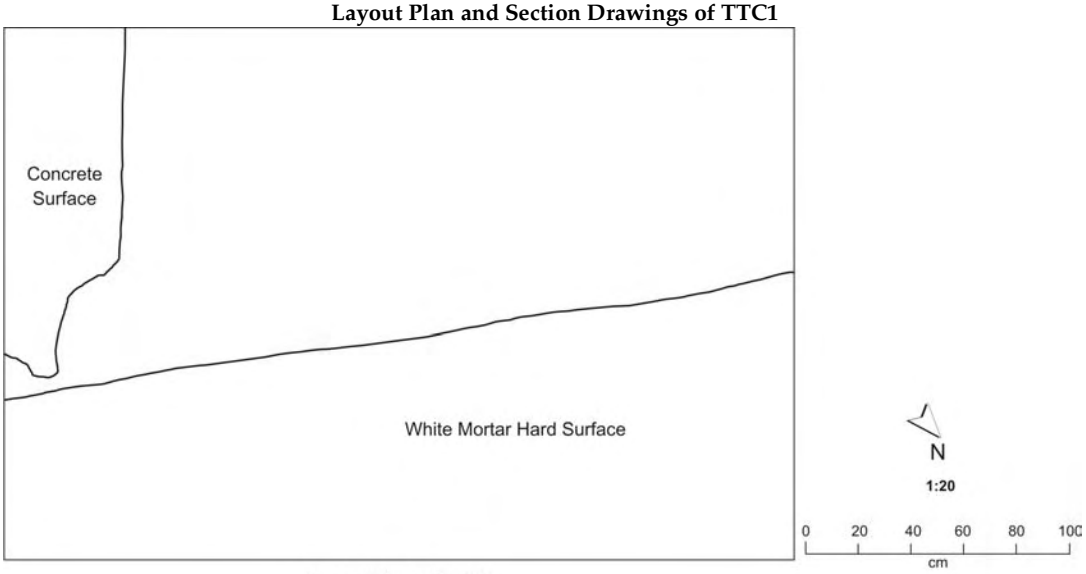


Southern Section

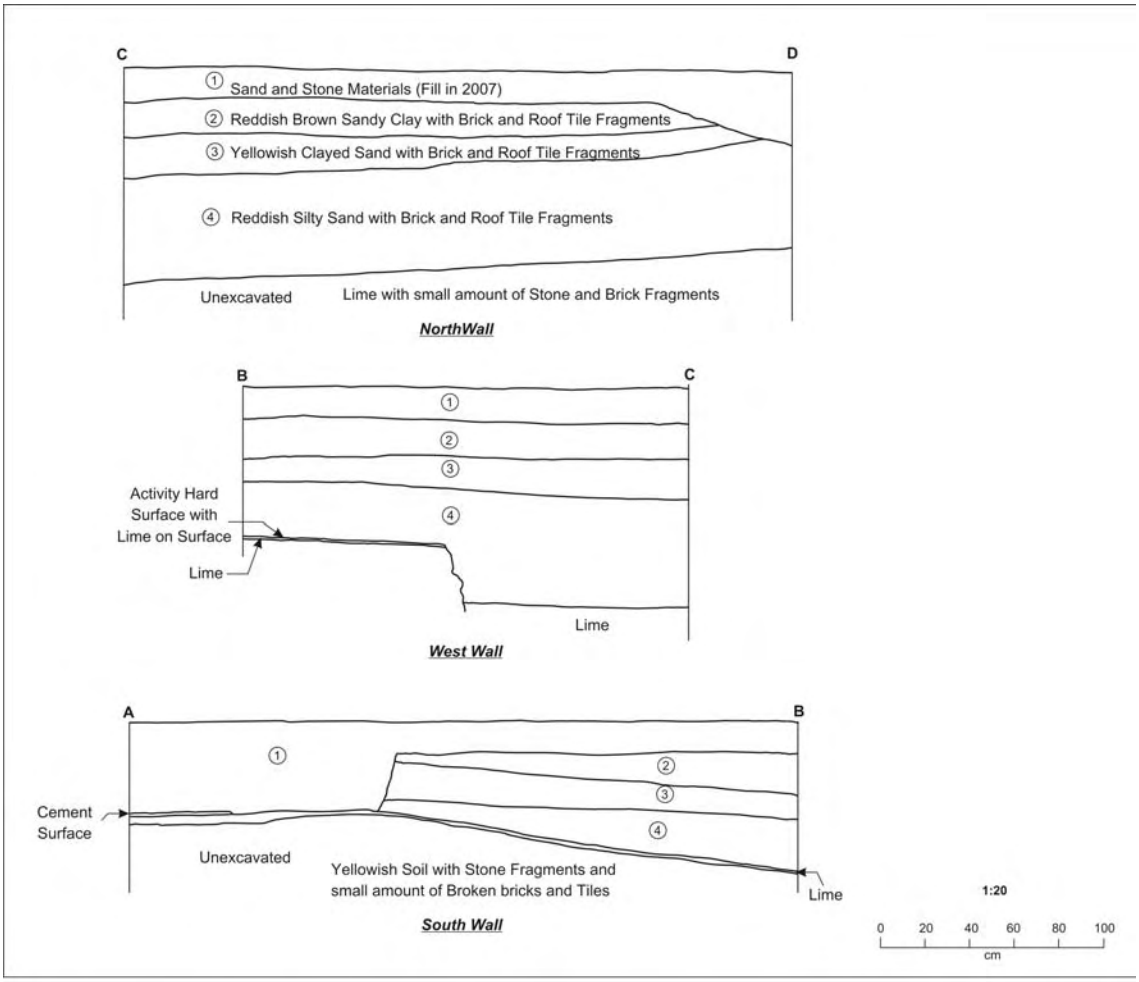
Western Section

Northern Section	

Layout Plan and Section Drawings of TTC1



Layout Plan of TTC1



Sections of TTC1

Trial Pit Record

Location	PMQ	**Site (Site Code)**	Former Police Married Quarters at Hollywood Road (HPQ2011)	**Trial Pit No.**	**TTC3**
Trial Pit Coordinate	E833691.168	N816042.469	**Trial Pit Measurement**	1.5m x 1.5m x 2m	
Digging Method	Hand Digging		**Ground Level**	44.42mPD – 44.44mPD	

Photography of TTC3

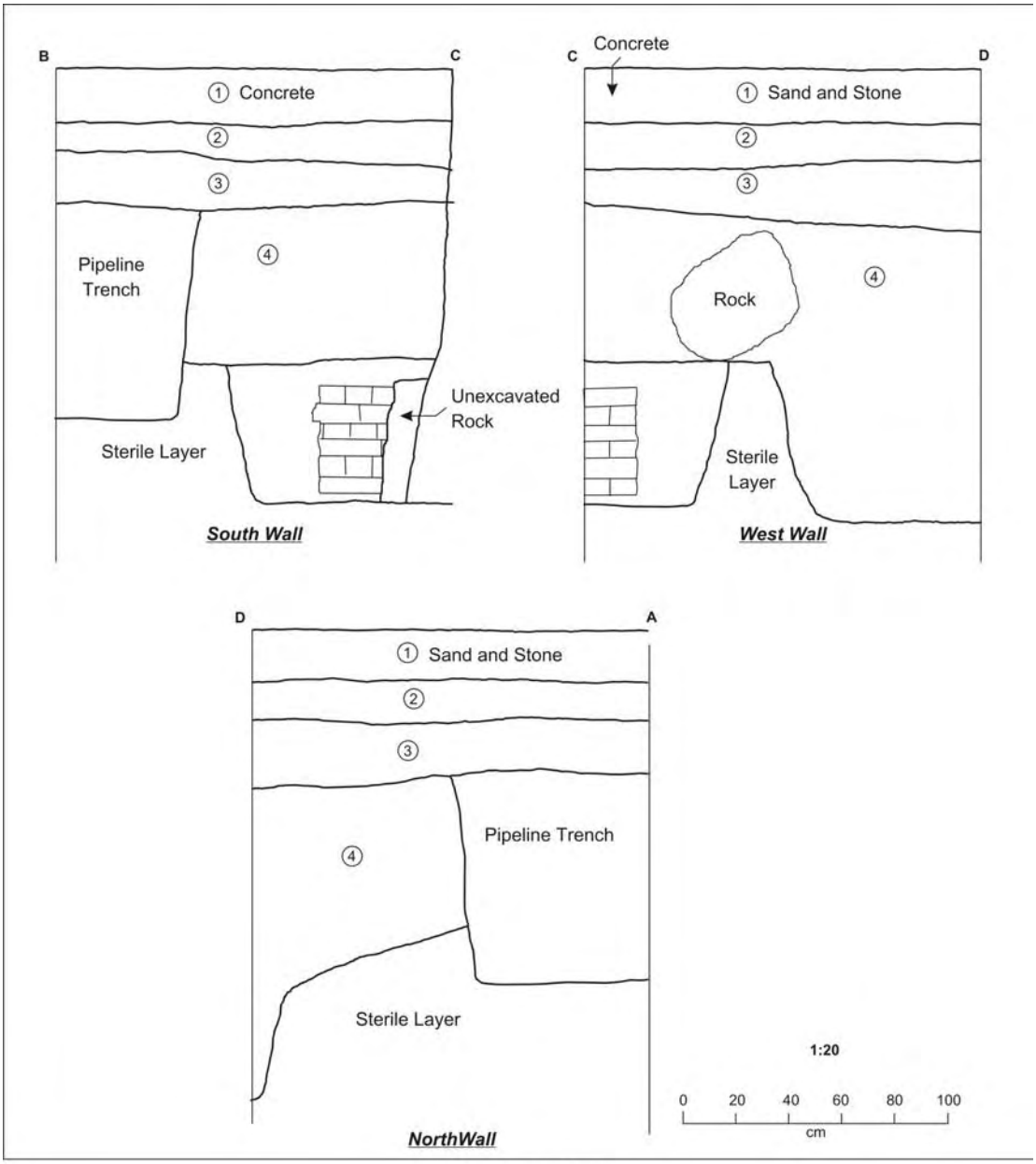
Eastern Section

Southern Section

Western Section

Northern Section	

Section Drawings of TTC3



Sections of TTC3

LAND MARKER (1980) H.K. CO. LTD.

To : ERM

Date of Survey : 23-Feb-2011

Attention Mr. Edward Chiu

Filename : 3315P1

Site Location : Archaeological Test Pits at Hollywood Road Former Married Quarters Site

POINT	DESCRIPTIONS	EASTING	NORTHING	R.L.	PLACE
TTC1A	FINAL	833673.131	816062.164	44.362	1
TTC1B	FINAL	833670.846	816064.435	44.415	2
TTC1C	FINAL	833672.328	816065.950	44.379	3
TTC1D	FINAL	833674.445	816063.826	44.351	4
TTC1E	FINAL	833673.925	816063.793	43.524	5
TTC1F	FINAL	833672.338	816065.191	43.371	6
TTC1G	FINAL	833671.543	816064.394	43.769	7
TTC1H	FINAL	833673.218	816062.758	44.026	8
TTC3A	FINAL	833692.423	816042.389	44.426	9
TTC3B	FINAL	833691.231	816041.430	44.436	10
TTC3C	FINAL	833690.168	816042.469	44.429	11
TTC3D	FINAL	833691.437	816043.562	44.422	12
TTC3E	FINAL	833691.692	816042.130	43.915	13
TTC3F	FINAL	833691.531	816042.913	42.468	14
TTC3G	FINAL	833690.850	816042.283	42.927	15
TTC3H	FINAL	833690.807	816042.231	42.932	16

For and on behalf of

Land Marker (1980) H.K. Co. Ltd.

LAND MARKER (1980) H.K. CO. LTD. 標誌測量 (1980) 香港有限公司

Joseph Y. C. Wong MHKIS, MRICS RPS(LS)

Annex D

Findings Extracted from Report on Stability Assessment of Existing Retaining Walls Former Police Married Quarters at Hollywood Road

Location Plan

Contract No. GE/2009/03
Ground Investigation - Urban (Term Contract)
Works Order No. GE/2009/03.21
Former Police Married Quarters at Hollywood Road (Phase I)

Drawing No. :	D419/03.21/GI/D001
Date :	January 2010
Scale	1 : 1000

DRiLTECH

PROJECT: Ground Investigation - Urban (Term Contract), Former Police Married Quarters at Hollywood Road (Phase I)

WORKS ORDER NO. GE/2009/03.21

CO-ORDINATES E 833728.75 N 816050.26

GROUND LEVEL: +43.79 mPD

LOGGED L. Zhang DATE 17.12.2009

CHECKED C. Lun DATE 19.12.2009

EXCAVATION DATES: 12.12.2009 to 16.12.2009

BACKFILL DATES: 29.12.2009 to 29.12.2009

DRILTECH

TRIAL PIT RECORD

CONTRACT NO. GE/2009/03

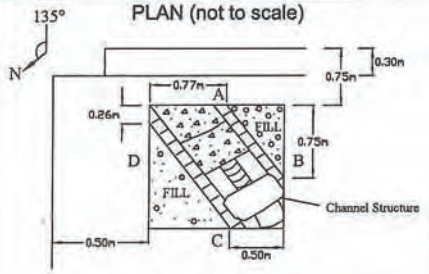
TRIAL PIT NO. TP 2

SHEET 1 of 1

SAMPLES and TESTS	DEPTH (m)	SKETCH	DEPTH (m)	LEGEND	GRADE	DESCRIPTION
	0.00	FACE A: 1.50 m / FACE B: 1.50 m / FACE C: 1.50 m / FACE D: 1.50 m	0.00			Light grey, CONCRETE.
	0.04	Area A, Mortar, Channel, Area B	0.04			Reddish yellow (5YR6/8) SAND MORTAR.
3 1 2	0.45 0.50					Area A: Dense, locally loose, moist, pink (7.5YR8/3), slightly silty sandy angular fine to coarse GRAVEL of rock and brick fragments. (FILL)
4 5	0.95 1.00	Channel, Area B	1.03			Area B: Dense, moist, yellowish brown (10YR5/8) and brown (10YR5/3), clayey silty fine to coarse SAND with many angular to subangular fine to coarse gravel and cobbles, occasional boulders of rock and concrete fragments. (FILL)
						At 0.24m (Face A & D) and 0.44m (Face B & C): A channel wall combined of a concrete slab (80mm thick) and red brick wall and mortar underlain.
						End of trial pit at maximum depth of 1.03 m.

SMALL DISTURBED SAMPLE
LARGE DISTURBED SAMPLE
U76 SAMPLE (VERTICAL / HORIZONTAL)
U100 SAMPLE (VERTICAL / HORIZONTAL)
BLOCK SAMPLE
IN-SITU DENSITY TEST
WATER SAMPLE
WATER SEEPAGE
N-SCHMIDT HAMMER TEST

PLAN (not to scale)



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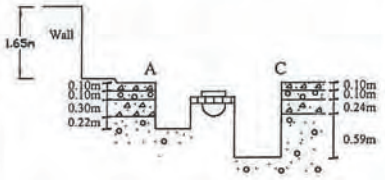

REMARKS

Maximum Depth: 1.03 m Average Depth: 0.64 m
Shoring: NO Stability: STABLE
Water Seepage: NO

1. Small disturbed samples were taken at 0.50m and 1.00m.
2. Large disturbed samples were taken at 0.50m and 1.00m.
3. Block sample was taken at 0.50m.
4. In-situ density tests were carried out at 0.50m and 1.00m.

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PROJECT: Ground Investigation - Urban (Term Contract), Former Police Married Quarters at Hollywood Road (Phase I)

WORKS ORDER NO. GE/2009/03.21

CO-ORDINATES E 833718.67 N 816086.62

GROUND LEVEL: +38.54 mPD

LOGGED L. Zhang DATE 17.12.2009

CHECKED C. Lun DATE 19.12.2009

EXCAVATION DATES: 11.12.2009 to 11.12.2009

BACKFILL DATES: 29.12.2009 to 29.12.2009

DRILTECH

TRIAL PIT RECORD

CONTRACT NO. GE/2009/03

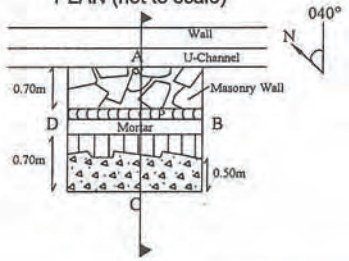
TRIAL PIT NO. TP16

SHEET 1 of 1

SAMPLES and TESTS	DEPTH (m)	SKETCH	DEPTH (m)	LEGEND	GRADE	DESCRIPTION
	0.00	FACE A: 1.50 m / FACE B: 1.50 m / FACE C: 1.50 m / FACE D: 1.50 m	0.00			Light grey, CONCRETE pavement.
	0.12		0.12			
	0.24		0.24			0.00m to 0.24m (Face A): CONCRETE wall of U-Channel.
8 1 5	0.45 0.50					Dense, moist, dark grey (N4/) and red (10R4/8), moist, slightly clayey silty sandy angular COBBLES with some coarse gravel of brick fragments. (FILL)
	0.70		0.70			At 0.28m: A light greenish grey PVC exposed (0.60m to Face A) 0.40m to 0.85m: A window excavated 0.40x0.45x0.50m to reveal the concrete wall.
1 2 6	0.95 1.00					
	1.20		1.20			Soft, moist, yellowish brown (10YR5/8), sandy clayey SILT with some subangular fine to medium, occasional coarse gravel of brick and rock fragments. (FILL)
9 3 7	1.45 1.50					Loose, moist, light grey (10YR7/1) and light reddish brown (2.5YR5/4), slightly clayey to clayey silty sandy angular to subangular fine to coarse GRAVEL with many of cobbles of rock, concrete and brick fragments, occasional roots. (FILL)
4	1.85	Mortar				
2	2.05		2.05			Grey (N6/), subangular BOULDERS, occasional cobbles of strong rock fragments. (MASONRY WALL)
						Part of Face B, D and whole Face C: 1.57m to 1.62m: Strong rock slab. (Cover of a U-Channel) 1.62m to 1.67m: Red brick structured. (Wall of U-Channel) 1.67m to 2.05m: Reddish yellow, sand mortar.
						End of trial pit at maximum depth of 2.05 m.
3						
4						
5						

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE (VERTICAL / HORIZONTAL)
- U100 SAMPLE (VERTICAL / HORIZONTAL)
- BLOCK SAMPLE
- IN-SITU DENSITY TEST
- WATER SAMPLE
- WATER SEEPAGE
- N-SCHMIDT HAMMER TEST

PLAN (not to scale)



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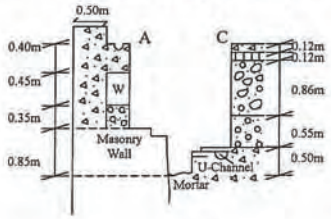

REMARKS

Maximum Depth: 2.05 m
Average Depth: 1.80 m
Shoring: YES
Stability: STABLE
Water Seepage: NO

1. Small disturbed samples were taken at 0.50m, 1.00m, 1.50m and 1.90m.
2. Large disturbed samples were taken at 0.50m, 1.00m and 1.50m.
3. Block samples were taken at 0.50m and 1.50m.
4. In-situ density tests were carried out at 0.50m, 1.00m and 1.50m.

DRiLTECH
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DrilTech Ground Engineering Ltd.
BLK A & B, 9/F, HONG KONG SPINNERS IND. BLDG, PHASE VI,481-483 CASTLE PEAK RD, KLN, HONG KONG
TEL: 2371 0008 FAX: 2744 1037 E-Mail: driltech@driltech.com.hk WEBSITE: driltech.com.hk

PROJECT: Ground Investigation - Urban (Term Contract), Former Police Married Quarters at Hollywood Road (Phase I)

WORKS ORDER NO. GE/2009/03.21

CO-ORDINATES E 833639.80 N 816066.04

GROUND LEVEL: +46.18 mPD

LOGGED L. Zhang DATE 17.12.2009

CHECKED C. Lun DATE 19.12.2009

EXCAVATION DATES: 03.12.2009 to 16.12.2009

BACKFILL DATES: 31.12.2009 to 31.12.2009

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TRIAL PIT RECORD

CONTRACT NO. GE/2009/03

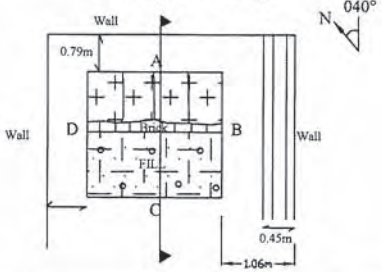
TRIAL PIT NO. TP17

SHEET 1 of 1

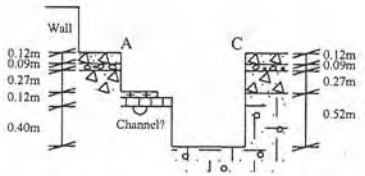
SAMPLES and TESTS	DEPTH (m)	SKETCH	DEPTH (m)	LEGEND	GRADE	DESCRIPTION
	0.00	FACE A: 1.20 m / FACE B: 1.20 m / FACE C: 1.20 m / FACE D: 1.20 m	0.00			Light grey, CONCRETE pavement.
	0.12		0.12			
	0.21		0.21			Loose, dry, light grey (10YR7/1), sandy angular to subangular COBBLES with some fine to coarse gravel of brick and rock fragments. (FILL)
	0.35		0.35			
1	0.45		0.48			Light grey, CONCRETE.
3	0.50	Brick				
	0.70	Mortar / Area A	0.70			Reddish yellow (5YR6/8), SAND MORTAR.
2	0.95					Area A: Loose, moist, brownish yellow (10YR6/8) to reddish brown (2.5YR5/4), clayey silty SAND angular to subangular fine to coarse gravel and cobbles. (FILL)
4	1.00	GRANITE SLAB				0.48m to 0.56m: Strong granite slab. (Cover of a channel) 0.56m to 0.80m: Red brick and sand mortar. (Wall of a channel) 0.80m to 0.95m: Clayey silty SAND with angular to subangular fine to coarse gravel and cobbles. (FILL)
						End of trial pit at maximum depth of 1.00 m.

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE (VERTICAL / HORIZONTAL)
- U100 SAMPLE (VERTICAL / HORIZONTAL)
- BLOCK SAMPLE
- IN-SITU DENSITY TEST
- WATER SAMPLE
- WATER SEEPAGE
- N-SCHMIDT HAMMER TEST

PLAN (not to scale)



SECTION (not to scale)



REMARKS

Maximum Depth: 1.00 m
Average Depth: 0.70 m
Shoring: NO
Stability: STABLE
Water Seepage: NO

1. Small disturbed samples were taken at 0.50m and 1.00m.
2. Large disturbed samples were taken at 0.50m and 1.00m.
3. In-situ density tests were carried out at 0.50m and 1.00m.

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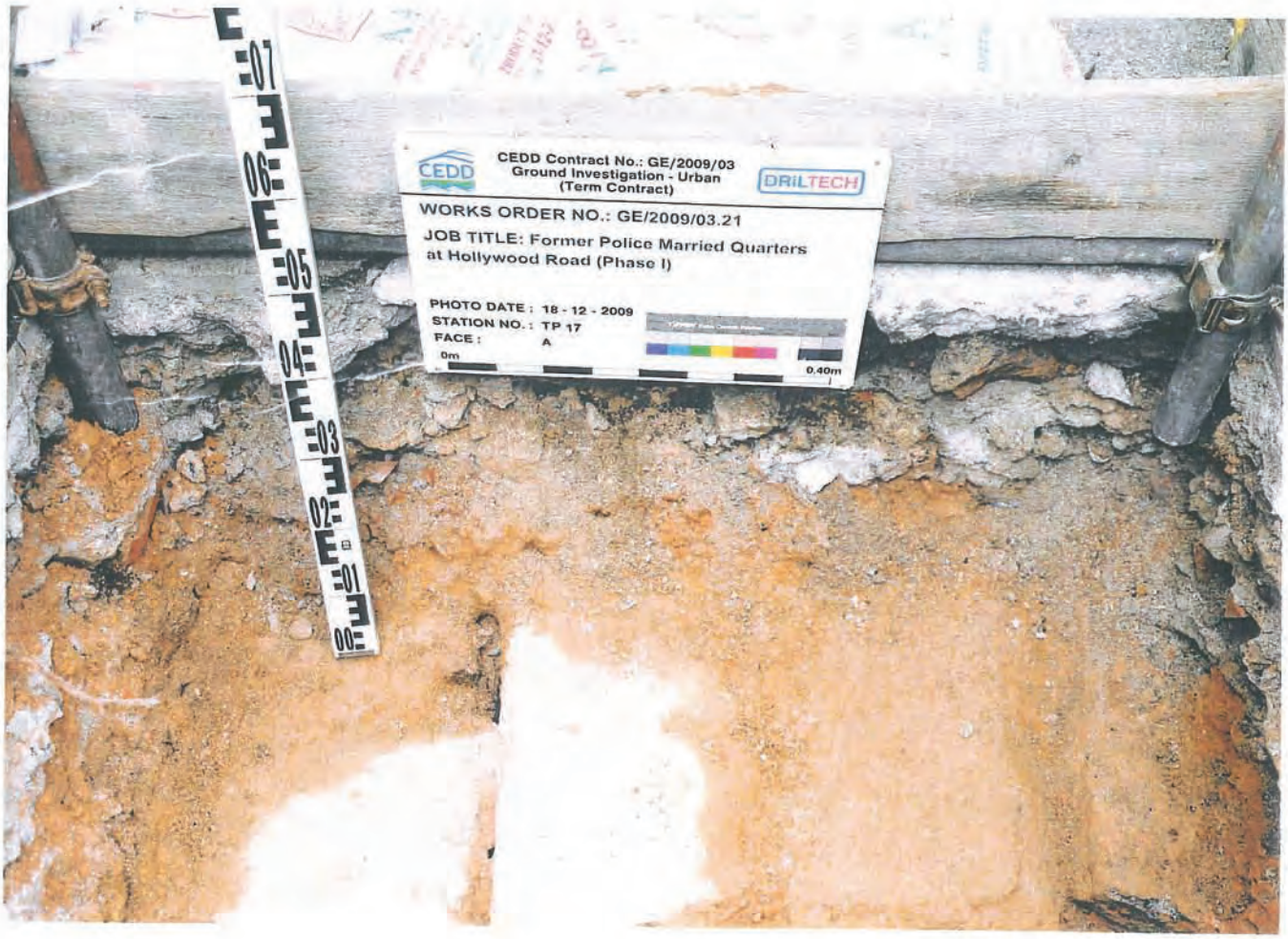

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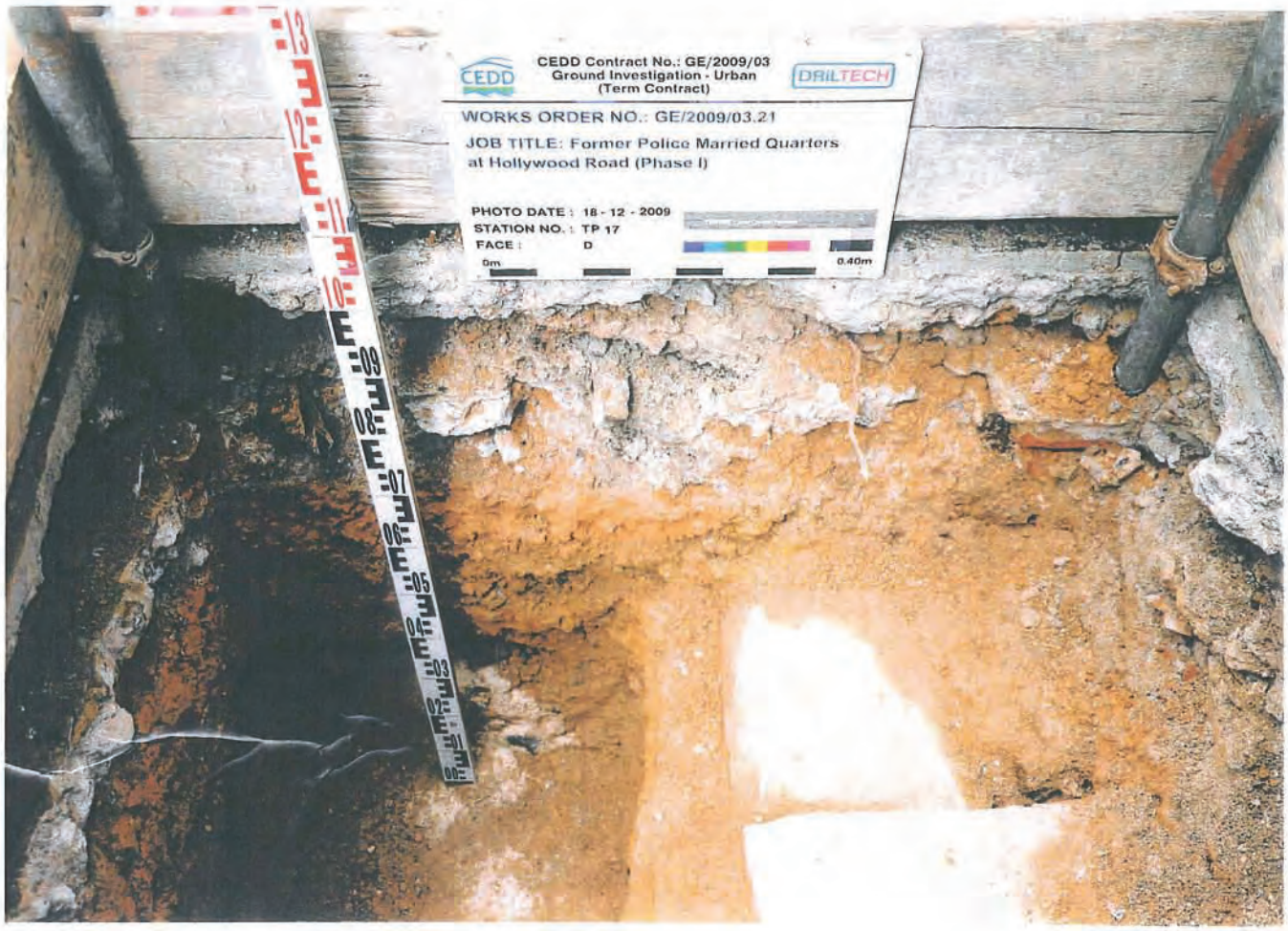

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